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## CONTENTS

### GENERAL SCIENTIFIC.

An Outline Introduction to Endocrinology 71  
OTTO V. HUFFMAN, M.D., New York.

Diet as a Factor in the Etiology of Adenoids 76

FRANK VAN DER BOGERT, M.D., Schenectady, N. Y.

Group Medicine and the Health Center as Suggested for Rural New York..... 78  
EDWARD H. MAREN, M.D., New York

Established 1872

Prostatic Hypertrophy ..... 88  
D. A. SINCLAIR, M.D., New York

Hot Springs and the Model Federal Venereal Disease Clinic ..... 85  
C. N. MYERS, Ph.D., New York

The Employment of Intelligence Tests in the Control of Immigration..... 87  
G. ALFRED LAWRENCE, M.D., New York

### EDITORIAL.

A Literary Diagnosis by Exclusion..... 91

Abnormal Psychology and Genius..... 92

The Treatment of Ordinary Diseases..... 92

A Paradox ..... 92

Looking Ahead ..... 92

### MISCELLANY.

From Margaret Sanger ..... 93

The 18th Amendment in Washington.... 93

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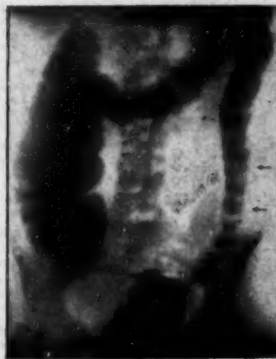
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# Medical Times

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## General Scientific

### AN OUTLINE INTRODUCTION TO ENDOCRINOLOGY.\*

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#### General Introduction:

The physiology; the structural results and the functional effects of hyperactivity and hypoactivity; and the clinical syndromes of hyperactivity and of hypoactivity of the:

#### Thyroid

Anterior lobe of the pituitary  
Posterior lobe of the pituitary  
Suprarenal medulla  
Suprarenal cortex  
Parathyroids  
Thymus and the Pineal body.

Today there are many hypotheses in regard to *internal secretions*, that is, in regard to the products of a tissue or an organ secreted and taken up by the blood stream and destined to bring about an effect in a remote part of the body or in the entire body. The first conception of an internal secretion was the result of Claude Bernard's discovery that the liver secretes glucose which is taken up by the blood stream. Of course, the effects of castration had been observed and known from time immemorial, but it was not until after Claude Bernard's discovery that the concept of an internal secretion from the gonads was taken seriously. To-day there is hardly a tissue or an organ that is not under suspicion in regard to its possible internal secretions. As Gley has pointed out, the blood is nothing more than a composition of internal secretions. However, when a substance is secreted and taken up into the blood from one tissue or group of tissues to stimulate other and distant tissues to correlated activity it is called a *hormone*. The best example of the results of a hormone is the production of the secondary sex characters of the interstitial glands of the gonads. Another example of an internal secretion, but one which is somewhat different from the conception of a hormone, because besides being a stimulator it may be as well a substance actually necessary to

the chemical reaction, is that of the islets of Langerhans in the pancreas which stimulates other tissues to oxidize glucose.

The greatest progress in our knowledge of the *Ductless Glands*, or *Endocrine Organs*, has been made in the domain of clinical medicine and pathology. Cretinism was found to be due to congenital absence of the thyroid gland. Operative removal of the thyroid for goitre led to the recognition of myxedema or Gull's disease in adults. Marie's disease, or acromegaly, pointed the way to the recognition of other syndromes related to the pituitary. As a result of thyroid surgery the importance of the parathyroids was discovered. Pathologists had learned to recognize status lymphaticus long before the present-day interest in the thymus. Undoubtedly the first recognition of the importance of the suprarenal glands to life came through knowledge of the pathology of the suprarenals in Addison's disease.

For the purpose of clarifying our knowledge in regard to the ductless glands the structural results and the functional effects supposedly due to hyperactivity or hypoactivity have been catalogued. I say *supposedly* because it is impossible to disturb one ductless gland without disturbing the entire endocrine system and the metabolism in general. For instance, the French school attributes Basedow's disease primarily to the thymus instead of to the thyroid. The thymus, however, does not produce an internal secretion, that is in the endocrinological sense—a hormone. Pathologists long ago observed the association of a subinvolved thymus with underdevelopment of the secondary sex characters and other structural deficiencies. It is not proper to speak of such a case of status lymphaticus as hyperthymic in the physiological sense. It is better to speak of it as a hyperthymic type. In the physiological sense it is really due to a hypoactivity of the interstitial glands and these in turn may have failed to function properly because of hypoactivity of the pituitary gland. However, it will serve a good purpose no doubt to segregate in so far as possible for each so-called endocrine organ all the structural results and physiological effects that may be attributed to its activity. It should not be forgotten, however, that the bioplasm itself may be to blame. In any species of ani-

\*Excerpts from clinical lectures



mal we see all sorts of *variations* and we do not necessarily attribute these to hyper or hypo activity of any one organ. Is the bull dog hypo-pituitary in regard to his facial bones and hyper-pituitary in regard to his shoulder bones? Is the greyhound eunuchoid? These questions are proposed simply to point to the absurdity of attributing the variations observed in man to his *endocrine make-up* alone. One must not forget that there is a biological point of view to account for variations; that there is an anthropological point of view in regard to mixture of racial types; and that embryology affords observations in regard to developmental errors and teratomata;—all of which are quite as important as a purely endocrinological point of view. In fact there is very little evidence of any variation in the activity of the ductless glands that warrants the conception of *hyper* and *hypo* activity outside of profound pathological conditions. When the activity is abnormal in either direction so many other factors enter in that we can do little better than to say that the gland is disordered. Basedow's disease is not regarded as primarily or essentially one of hyperthyroidism. Some tumors of the pituitary give rise to hyperpituitarism but back of this is not only the cause of the tumor but the pressure effects on certain nerve centres. Not all investigators accept the evidence in regard to pituitary glycosuria or polyuria, because in the case either of a tumor or of experimental operation the adjoining nerve tissue is injured. Possibly this point, namely, that there are other than endocrinological factors to be considered, may be made clearer by the following question,—what in the first place caused the cretin to fail in the development of a thyroid gland, and why after treatment, besides improving in certain regards and to a degree only, does not the cretin become absolutely normal?

Each kind of ductless gland is essential to normal development and life; in their activities they are inter-related and inter-dependent. When normal they maintain the normal metabolism of the body in its various activities, and there is no evidence of any deviation under ordinary circumstances from just the right degree of activity for maintaining a normal condition. In disease, however, we see evidence of *hyper* and *hypo* activity; we see the abnormal structural results, especially if the disturbance occurred during the preadolescent development period; we see the varying functional effects,—first either those of *hyper* followed by *hypo* activity, or, conversely. For instance, a patient may show the structural results of *hyperpituitarism* and, having passed that stage, be now in a functional state of *hypopituitarism*. Lastly, there are all sorts of combinations of endocrine disorders as, for instance, *hyper* anterior lobe plus *hypo* posterior lobe pituitarism plus hyperthyroidism plus *hypogonadism*.

Before taking up the physiology of the ductless glands it is well to keep in mind this synopsis:

- (a) The thyroid gland has acini in which the secretion is actually stored. When thyroid gland is administered, either fresh or dried, the stored-up secretion is administered. This is not true in the case of any other ductless gland unless an exception is made of the fluid found in the interstitial spaces of the posterior lobe of the pituitary and of the small amount of adrenin found in the medulla of the suprarenal glands.
- (b) The blood contains the real internal secretion of an active ductless gland. However, as active ferments (pepsin) (pancreatin) may be obtained from some of the glands of external secretion even

when inactive or dried, it is fair to try out all of the ductless glands in an analogous way on the hypothesis that the cells may contain an enzyme or a hormone.

- (c) The experimental evidence in regard to extracts of ductless glands injected into the circulation or tested out on living tissues in the laboratory should be accepted with caution. Extracts of other tissues may give like results and it is not conclusive that an internal secretion is being dealt with.
- (d) In feeding thyroid to tadpoles, the thyroid secretion, iodized protein, is fed. Metamorphosis is hastened but the growth of the frogs is stunted. The effect of feeding other poisons should be observed to see if like results could be obtained. In feeding thymus to tadpoles, they grow and thrive, there is nothing present to injure them or to inhibit the growth of the bacteria or of the protozoa. Dried meat or liver gives similar results.
- (e) In the lower animals used in experimental studies there are accessory thyroids, accessory parathyroids and accessory adrenals that complicate the problem. The rutting season has also to be taken into consideration.
- (f) Operations on the pituitary are complicated by injury to the brain. Consideration must be given to the results of trauma as, for instance, in the case of thymectomy.
- (g)
  1. The thyroid is indispensable to the health of man.
  2. The parathyroids are indispensable to the life of man.
  3. The thymus is not absolutely necessary.
  4. The suprarenal gland is composed of two parts:
    - A. the medulla, and
    - B. the cortex
 which are entirely separate in the lower vertebrates. The cortex is called the *interrenal gland* and this part is absolutely indispensable to life as is also the medulla.
  5. The pituitary is composed of three parts:
 

<ol style="list-style-type: none"> <li>A. the anterior lobe</li> <li>B. the pars intermedia</li> <li>C. the pars nervosa</li> </ol>	}	= posterior lobe.
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 The pituitary is not absolutely necessary to life.
- (h) All the ductless glands are more or less inter-related and inter-dependent. They are concerned with *nutrition*, growth, development and reproduction. No one of them can function properly unless all of the others are functioning.

In some of the lower vertebrates:

The thyroid discharges its secretion into the alimentary tract (thyro-glossal duct).

The pituitary is related to the passageway between the pharynx and the cerebrospinal canal which in turn communicates with the exterior through the anal pore thus permitting of the circulation of water through the pharynx and the cerebrospinal canal.

The interrenal glands (adrenal cortex) are separate and are related to the interstitial glands of the gonads.

The suprarenal medulla is related to the chromaffine system which is scattered along the sympathetic nerves.

- (i) 1. Grave's (Basedow's) disease is due to an extreme hyperplasia or an adenoma of the thyroid; acromegaly, or Marie's disease is due to an adenoma of the pituitary—the whole gland being in-



volved either directly or by pressure; hypernephromata, that is adenomata of the suprarenal cortex, cause the symptoms of hyperinterrenalism; in other words, these three diseases in their etiology are related to the tumor problem.

2. Cretinism, or Gull's disease, Addison's disease, and status lymphaticus are due to absence or diminished function respectively of the thyroid, the suprarenals and the interstitial glands—absence of a gland is a biological problem.

As a working hypothesis for making observations on the abnormal activity of the several endocrine glands, I have separated the symptoms into two classes—first, those which are structural and may be observed at an autopsy as well, and secondly, those which are active phenomena and may be observed in the living only. The structural results may be classified under the headings of the several systems as follows:

1. Tegumentary System.
2. Circulatory System (including blood, lymph and hemipoeitic organs).
3. Respiratory System.
4. Muscular System.
5. Skeletal System (including joints).
6. Nervous System (including special sense organs and autonomic system).
7. Alimentary System (including metabolism).
8. Urogenital System.
9. Endocrine System.

The functional effects of abnormal activity may be listed under these headings:

Skin.	Gastric motility.
Sweat Glands.	Intestines.
Sebaceous Glands.	Fat deposits.
Nails.	Sugar tolerance.
Hair.	Blood sugar.
Fatiguability.	Detoxication.
Pulse.	Elimination.
Blood pressure.	Urination.
Blood.	Menstruation.
Respiration.	Psyche.
Temperature.	Vasomotor Stability.
Mucous membranes.	Pupil.
Gastric secretion.	Reflexes.
	Special senses.

By making observations and listing them in this way we may in time build up a body of information that may be helpful in pathological investigation. Today there is so much written and so much attributed to the endocrines, that it would be impossible to catalog all the assumptions.

We must exercise our critical faculty and not attribute anything to any endocrine organ unless there is sound pathological or physiological evidence for so doing.

### The Thyroid

#### Physiological Activity:

The thyroid produces a secretion which is stored as colloid in its acini pending its absorption by the blood. This secretion is an iodized protein and when in the blood it promotes all metabolism, especially the process of oxidation, and therefore, indirectly, all growth and development. That the total metabolism is directly related to the activity of the thyroid is shown by the lessened excretion of nitrogen, carbon dioxide and phosphoric acid, and by the lessened consumption of oxygen when the thyroid is absent; and conversely by the greater excretion and the greater consumption than normal when it is hyperactive. The fact that it is concerned with the deamination of amino-acids and that it is

absolutely essential to the health of carnivorous animals gives ground for the belief that it is concerned with detoxication through oxidation. It is hyperactive during menstruation and pregnancy. It sensitizes the neuromuscular synapses of the entire autonomic nervous system. It has some bearing upon the regulation of the storage of glycogen in the liver.

The extracts, or the active principle, thyroxin, have no advantage over the fresh or the dried gland. Thyroxin contains 65 per cent of iodine; and only very small doses may be used. The thyroids of cattle contain more iodine during the summer months when on pasture.

Simple goitre, that is, enlargement of the thyroid due to a superabundant collection of colloid in the acini, is due largely to an absence of the iodine which is necessary to permit of its absorption, that is, passage through the wall of the acinus and the capillary into the blood stream. In such a condition, which even may be accompanied by myxedema, it is unwise suddenly to administer a large amount of iodine or of thyroid because too much of the non-iodized thyroid might be too suddenly released by this iodine administered directly or in the form of thyroid gland.

#### Hyperactivity:

*Structural results*—cardiac hypertrophy, fatty infiltration of muscles, cirrhosis of the liver, microsplanchnia and hyperplasia of the thymus and the thyroid.

*Functional effects*—warm, pigmented skin, active sweat and sebaceous glands, rapidly growing nails, increased fatiguability, rapid pulse, hypertension, increased temperature, increased appetite and thirst, decreased sugar tolerance, decreased fat deposits and increased blood sugar, physical unrest, vasomotor instability, exaggerated reflexes, loss of taste or smell and sympathicotonia.

*Clinical syndromes*—puberty hyperplasia; adenoma (Plummer's Disease); Goetsch's diffuse adenomatosis; Basedow's (Graves') disease (exophthalmic goiter) (thyrotoxicosis) (endemic toxic goiter); iodine intoxication?

#### Hypoactivity:

*Structural results*—myxedema, defective teeth, hyperplasia and congestion of the lymphoid tissue in the mucosa of the respiratory tract, infiltration about the joints, enlarged liver, swollen bile ducts, megalosplanchnia and hyperplasia of the pituitary.

*Functional effects*—cold, rough skin, inactive sweat glands, brittle nails, dry brittle hair (alopecia) (psoriasis) (eczema), sluggish asthenia, slow pulse, slow clotting of blood, dyspnea upon exertion, subnormal temperature, pale and swollen mucous membranes, hyperacidity and hypersecretion, anorexia, lack of thirst, loss of appetite for meat, increased deposit of fat, hypoglycaemia, amenorrhoea in young, dulled senses, vasomotor paralyses (chilblains) (Raynaud's), weak reflexes.

*Clinical Syndromes*—Cretinism (athyrosis) (hypothyrosis); simple goiter (endemic goiter) (simple colloid goiter); Gull's disease (myxedema); (cretinoid state) (struma).

#### The Anterior Lobe of the Pituitary—(Hypophysis) Physiological Activity:

The internal secretion promotes the growth of connective tissue and the preadolescent development of the bones and of the gonads. The gonads, however, tend to inhibit in part its effect, especially on the long bones. If this inhibitory power be removed, by castration, the long bones grow greatly. The anterior lobe is more active during pregnancy and during youth when, nat-

urally, there is necessity for the metabolism related to the growth of bone. It seems to be able to assume to a degree the role of the thyroid. In scleroderma and sclerodactylia we see results that may be attributed to hypoactivity, namely, atrophy of the epithelial, connective, fat and osseous tissues.

#### Hyperactivity:

*Structural results*—hyperlastic skin, hypertrichosis, separated teeth, eunuchoid gigantism—torso shorter than lower extremities, span greater than height and broad "spade-like" fingers.

*Functional effects*—thick, wrinkled skin, active sweat and sebaceous glands, hypertrichosis, hypertension.

*Clinical syndromes*—Marie's disease (acromegaly) (gigantism); adenoma; arsenical poisoning?

#### Hypoactivity:

*Structural results*—hypoplastic skin, scanty hair, absent lateral incisors, dwarfism of Lorain-Levi type—torso longer than lower extremities, span less than height, gracile fingers and infantile genitalia.

*Functional effects*—thin, smooth skin, inactive sweat and sebaceous glands (dry), scanty hair (lanugo), hypotension, subnormal temperature, amenorrhoea.

*Clinical syndromes*—scleroderma (hide-bound disease); morphea (circumscribed scleroderma); sclerodactylia; scleroderma guttata (white spot disease); trophoneurosis; angiotrophoneurosis; syringomyelia; Grave's disease; hypothyroidism; dwarfism (nanism); sexual infantilism; Lorain Levi type; see Status lymphaticus; osteitis deformans (Paget's disease); Osteomalacia.

### The Posterior Lobe of the Pituitary

#### Physiological Activity:

The posterior lobe provides an internal secretion from its *pars intermedia*,—the part composed of epithelial cells. The secretion is believed to collect as hyaline masses in some of the interstitial spaces and as such to slowly migrate up through the *pars nervosa* (infundibular process) into the third ventricle where it becomes mixed with the cerebrospinal fluid. The *pars nervosa* is composed of nervous tissue and probably does not produce an internal secretion, but it contains the hyaline masses derived from the *pars intermedia*. Therefore the whole of the posterior lobe may be used to obtain the secretion for experimental or therapeutic purposes.

The posterior lobe is concerned with the metabolism of glucose and with the excretion of water by the kidneys; and with the secretion of milk. It may attempt to compensate for a hypoactive thyroid. Preparations derived from the posterior lobe cause vaso-constriction and contraction of the pregnant uterus. In acromegaly or Marie's disease the blood pressure is raised greatly.

#### Hyperactivity:

*Structural results*—

*Functional effects*—increased tonus of muscles, hypertension, increased cerebrospinal fluid, decreased sugar tolerance, hyperglycemia and glycosuria.

*Clinical syndrome*—Marie's disease.

#### Hypoactivity:

*Structural results*—adiposity, gracile fingers, infantile genitalia (undescended testicle).

*Functional effects*—asthenia, hypotension, subnormal temperature, obesity, increased sugar tolerance, hypoglycemia, polyuria (enuresis).

*Clinical syndromes*—Froelich's syndrome (adiposo genital syndrome); obesity (adiposis dolorosa or Dercum's disease); drowsiness (somnia); epilepsy; see status lymphaticus (hypophysis syndrome); Simon's syndrome (metastatic cancer of hypophysis).

### The Suprarenal Medulla

#### Physiological Activity:

The suprarenal medulla produces an internal secretion, *adrenalin*, a compound similar to tyrosin, only a small quantity of which is held in the medulla or found, if at all, in the circulating blood at ordinary times. On stimulation of the sympathetic, however, a large quantity is produced and liberated into the blood stream. It stimulates the entire vaso-motor system and thus raises the blood pressure. It acts on the receptor substance at the myo-neural connections of the sympathetic nervous system. The internal administration of thyroid or cocaine sensitizes these synapses and thus enhances the action of adrenin, which when extreme produces sympatheticotonia. It stimulates the salivary and lacrimal glands, vas deferens and seminal vesicles but, through stimulation of inhibitory fibres, it causes loss of tonus and disappearance of peristalsis in the stomach, gall bladder, urinary bladder, non-pregnant uterus, bronchioles, and cardiac blood vessels. It shortens the coagulation time of the blood. It mobilizes sugar in the blood, not by greater production from protein or fats, but by interfering with the oxidation of sugar. *Adrenin* constitutes 0.1 per cent of the fresh gland. (*Adrenalin*), *Epinephrin*, is a purified watery extract. *Adrenin* acts directly on the myo-neuro-junctional tissue in the blood vessel walls, for it acts when the nerves are cut. The amount of adrenin in the blood normally is just sufficient to maintain the tone of the myoneural junction and is not sufficient to maintain vascular tone. In shock an increased amount of adrenin appears in the blood and it has been suggested that it compensates for injury of sympathetic fibres by stimulation of the nerve endings after sympathetic impulses fail. Strychnin is supposed to stimulate the adrenals. Arsenic, mercury, iodides and nicotin are said to poison the adrenals. Some doubt has been thrown upon Cannon's conclusions in regard to hyperfunction of the adrenals during fright. There is no evidence that hyperfunction causes arteriosclerosis, although injections of adrenalin have caused it.

#### Hyperactivity:

*Structural results*: large canine teeth and absence of glycogen in the liver.

*Functional effects*: The sweat glands are stimulated, fatiguability is decreased as shown by the great energy displayed, the pulse rate is increased, blood pressure is raised, there is polycythemia, diminished alkalinity, increased viscosity and shortened coagulation time of the blood, the gastric secretion is decreased and gastric motility is delayed, the pancreatic secretion is decreased, the blood sugar is increased and there is glycosuria; the psychomotor energy is intense, the pupil is dilated and there is sympatheticotonia.

*Clinical syndromes*: Hyperchromaffinism; tumors (Adenoma, hypernephroma, adrenal struma); strychnine intoxication.

#### Hypoactivity:

*Structural results*: Pigmented skin and visceroptosis.

*Functional effects*: Asthenia, slow pulse, low blood pressure, eosinophilia, low CO<sub>2</sub> tension, subnormal temperature, hyperacidity, hypoglycemia, vagotonia, phobias, urticaria, angioneurotic oedema, Sergeant's white line, contracted pupil and vertigo.

*Clinical syndromes*: Addison's disease (tuberculosis of the adrenals); hypoadrenia following antityphoid vaccination or salvarsan injection; war dyspepsia and heart failure, *Asytolie surrenale*; see Status lymphaticus; arsenic, mercury, iodide or nicotin intoxication.



### The Suprarenal Cortex—(The Interrenal Gland) Physiological Activity:

In some of the lower orders, some of the fishes, the cortical portion of the suprarenal gland is separated from the medulla and is called the interrenal gland. The cortex in man so far as its morphologic character is concerned might as well be separated entirely from the chromaffine system. The suprarenal cortex evidently controls the distribution of the secondary sexual hairs and the deposition of pigment. It is active during pregnancy. It is absolutely essential to life.

#### Hyperactivity:

**Structural results:** The skin is thick, fat, pigmented and hirsute; the muscular system is well developed and the genitalia are hyperplastic (enlarged).

**Functional effects:** Fatiguability is decreased (hypersthenia); obesity and precocious menstruation; irritable and egotistical mind; large testes.

**Clinical syndromes:** Hypernephromata; syndrome genitosurrenale (hyperinterrenalism), congenital form (pseudohermaphroditism), early postnatal form (pubertas precox), late form (suprarenal virilism) (hirsutismus).

#### Hypoactivity:

**Structural results:** Deeply pigmented skin in natural places, exposed areas, and areas subject to pressure; small heart; atrophy of muscles; hyperplasia of lymphoid tissues in the intestines and spleen; and hyperplasia of the thymus and thyroid.

**Functional effects:** Pigmented skin, asthenia, small pulse, hypotension, anaemia; lymphocytosis, hypochlorhydria, vomiting, emaciation, increased sugar tolerance, hypoglycemia, diarrhoea or obstinate constipation, indicanuria and abortion, apathy, insomnia, aspermia.

**Clinical syndromes:** See status lymphaticus. Timme's syndrome (thymus-suprarenal-pituitary compensatory syndrome) (polyglandular syndrome); Hutchinson's syndrome (adrenal sarcoma).

### The Parathyroids

#### Physiological Activity:

The parathyroids are essential to life and are evidently concerned with the metabolism of guanidine and methyl-guanidine. The administration of calcium salts ameliorates the condition of tetany which accompanies an increase of guanidine and methyl-guanidine in the blood. They are concerned with the metabolism of muscular activity and with the delicate equilibrium of the sodium, potassium, calcium and magnesium content of the blood. (If it were not for the calcium content our muscles would rhythmically contract continuously.) (Tremor of muscles is due to over-fatigue, that is, exhaustion of the calcium.)

The output of ammonia is increased after removal of the parathyroids. They probably convert ammonium carbonate into urea which is the normal end-result of the deamination of amino-acids, and occurs primarily in the liver. There is increased alkalinity of the blood which may be alleviated by the injection of acids. Guanidine and methyl-guanidine appear in the blood in larger amounts than normally. Thymus nucleic acid when decomposed and oxidized yields guanidine. Tetany is aggravated by a high meat diet.

#### Hyperactivity:

**Structural results:** ?

**Functional effects:** Increase of guanidine in the blood, hyperpnea, anorexia and depression.

**Clinical syndromes:** ?

#### Hypoactivity:

**Structural results:** Small teeth, ununited fractures.

**Functional effects:** Hypo-dentine formation of teeth, tremor (on fatigue), involuntary contraction of muscles, alkalosis, increased ammonia in the urine.

**Clinical syndromes:** Tetany; laryngismus stridulus; Parkinson's disease (paralysis agitans).

### The Thymus

#### Physiological Activity:

The function of the thymus is obscure. There is no undisputed evidence that it provides an internal secretion. It is probably a storehouse of substances, like the nucleic acids, required in subsequent development, rather than a producer of growth-catalyzers. It persists if the gonads do not mature. The so-called hyperthymic is therefore hypogonadal or hypopituitary.

#### Hyperthymic type:

**Structural results:** Thin and smooth skin, lanugo-like hair, female type of pubic crines; chlorosis; thin-cerebral vessels and small heart; lax joints, femur arched forward; hyperplasia of the lymphoid tissue; hypoplastic uterus; connective tissue in place of interstitial gland.

**Functional effects:** Slow pulse, low blood pressure lymphocytosis, menstruation scant.

**Clinical syndromes:** Status lymphaticus (status-thymico-lymphaticus) (thymic subinvolution (status thymicus) Timme's syndrome; Polyglandular syndrome.

#### Hypothymic type:

**Structural results:** Early development of secondary sex characters.

**Functional effects:** Adiposity.

**Clinical syndromes:** Precocious involution of the thymus.

### The Pineal Gland

#### Physiological Activity:

The physiological activity of the pineal is not absolutely known; it is inferred from certain clinical observations. It may hold in abeyance the evolution of the pituitary. It seems to bear some relation to the control of pigment.

#### Hyperactivity:

**Structural results:** Precocious development of the genitalia with hyperplasia.

**Functional effects:** Greatly increased fatiguability, asthenia (like muscular dystrophy); hypoglycaemia, precocious menstruation and precocious mind.

**Clinical syndromes:** Symptoms of brain tumor, mesencephalic syndrome; pontine syndrome; cerebellar syndrome; thalamic syndrome.

#### Hypoactivity:

**Structural results:** Well developed muscular system.

**Functional effects:** Childishness.

**Clinical syndromes:** Pineal dystrophy (precocious pineal involution) (pineal sand); precocious mentality; precocious sexuality.

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### An Experimental Verification of the Significance of the Delayed Negative Wassermann Reaction

Mellon and Avery report case which concerns complement fixation as it occurred in a patient suffering from blastomycosis and in animals experimentally infected. As in the "delayed negative" Wassermann reaction, the reaction at the end of thirty minutes was 4 plus—at the end of forty-five minutes or one hour it was doubtful where it remained.

The tendency to regard the delayed Wassermann reaction as essentially positive is strengthened by the appearance of the same phenomenon in a patient and in animals definitely proved to have been suffering from blastomycosis.—(*Arch. Derm. and Syph.*, September, 1921.)



## DIET AS A FACTOR IN THE ETIOLOGY OF ADENOIDS

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Meyer, in his original article, published in 1870, admits that he has little to say upon the etiology of adenoids. To him, however, the growths seem to be dependent upon the same causes as the affections of the mucous membranes with which they are frequently complicated.

The first suggestion of a dietetic factor, of which I have knowledge, appears in Marfan's article upon "Rachitis in Relation with Ogival Deformity of the Arch of the Palate," published in September, 1907. Marfan found that of one hundred rachitics, seventy-three had adenoids and sixty-five had hypertrophied tonsils and he concludes from these and other facts brought out in his paper that, in early age, the deformity of bones which we call rickets and hypertrophy of lymphoid tissue of the pharynx are manifestations of the same disease and are the issues of the same causes. If, he says, we want to consider rickets, not as a disease limited to the bones but as a general disease we are compelled to state that in the early age adenoids and hypertrophied tonsils are part of the rachitic disease.

Congenital cases are compared with the acquired, brought about by chronic endouterine toxemia. The final paragraph of his paper reads: "I believe that rickets is a result of reaction of common defense provoked by infections or chronic auto-intoxication in the very active bone marrow of the child or the foetus."

In a paper published by Morse in November of the same year the statement is made that rickets is very likely to develop in cases of disturbed nutrition from adenoids. Deformities of the chest are cited as not uncommon as the result of interference with the entrance of air, the soft rachitic bones yielding in various ways to atmospheric pressure and the pull of the muscles.

Marfan's studies have, however, shown that the palatal deformities existed with no adenoids or hypertrophied tonsils, and that after operation, although the chest circumference might increase, the general deformities rarely disappeared. Twelve out of forty-seven cases with palate deformities had no adenoids. Removal of adenoids and tonsils in other cases did not modify the deformity. He believes that scoliosis which has been said to be due to adenoids is really a bone tissue condition and that it has never been demonstrated that removal of adenoids and tonsils makes the recovery from the scoliosis quicker.

Rickets and scurvy are said to be extremely rare in China. Jeffrys and Maxwell speak of the comparative absence of rickets and gout among the Chinese and this observation in regard to rickets is confirmed by Bolt in his recent article on "The Chinese Child." Bolt also says that scurvy is very rare and is scarcely ever seen outside of the treaty ports. He refers to the comparatively little acute tonsillitis and seriously enlarged tonsils and in a recent personal communication he tells me that in boys and girls of school age adenoids are apparently small and insignificant. There were few cases of adenoids which distinctly obstructed the breathing.

I realize that any argument based upon association of the growths with rickets must presuppose a dietetic factor in the causation of that disease. The existence of such a factor has apparently been proven by the work of Howland and Park, who have made extensive studies

on the effect of cod-liver oil alone in rickets, and that of Phemister, Miller and Bonar, who have studied the effects of phosphorus and of cod-liver oil in combination with phosphorus upon the growth of the bone. Their roentgenographic findings are pretty conclusive.

Sittler has stated that the exudative diathesis, in connection with which adenoid and tonsilar hypertrophies so commonly occur, is found so frequently in children nowadays that one might feel inclined to regard these symptoms merely as the physiologic reaction to the unhygienic mode of living now prevailing.

Benfey and Bahrdrf studied thirteen patients in which the clinical picture was dominated by adenoids and by regional glandular swellings.

Czerny believes the lymphoid hypertrophies due to over-feeding, which favors the deposit of fat.

In 1914, I had the pleasure of reading before the Pediatric Section of the Medical Society of the State of New York a paper in which I expressed the belief that diet was of importance in the development and recurrence of these growths. My opinion was at that time based upon the frequent association of adenoids with rickets and other diseases conceded to be of dietetic origin, the association of growths, in later childhood, with marked evidences of prolonged digestive disturbances, the persistence of the digestive symptoms and intestinal toxemia, in many cases, after removal of the growths, and the frequency of recurrence of the hypertrophy after operation. I also believed that the results of dietetic treatment were to a certain extent confirmatory. I believed then, as I do now, that the toxemia is responsible by the production of a lowered resistance to infection and that the catarrhal condition of the nasopharynx should be considered as a part of the general congestion of the alimentary tract extending from mouth to anus.

It may be argued that as digestive disturbances render the skin more vulnerable to lesions caused by irritation and infection, these same digestive disorders may, and undoubtedly do, render the mucous membranes (a simple continuation of the skin surface and practically of the same structure histologically) more susceptible. It seems, therefore, reasonable to believe that a nasal catarrh, or any infection of the naso-pharynx, in themselves made possible by lowered resistance, may, through long continuation or frequent repetition, cause, in individuals whose tissues are rendered vulnerable by products of faulty metabolism, sufficient irritation to stimulate the growth of adenoid tissue.

In 1919, Harry Campbell, writing upon "The Etiology, Prevention and Non-Operative Treatment of Adenoids," says that the central factor in their causation is intestinal indigestion and due mainly to an excess of imperfectly insalivated starchy food. He explains hereditary cases by the assumption that in some families the bowel has less than the average power of coping with an abundance of carbo-hydrates.

This theory would satisfactorily explain the occurrence of the disease in European children fed by native nurses in the Tropics of which I shall speak later.

Campbell's interpretation of the method by which the intestinal indigestion gives rise to the defect is that the condition is due chiefly to the absorption of intestinal poisons, a surcharging of the blood with foodstuff, a toxemia secondary to the digestive disturbance. As a result of this toxemia, he believes, the tissues are saturated with poison and nutrition suffers, then follows a lowering of the resistance to the microbic infection.

His advice as to the most effective way to diminish

the prevalence of adenoids in England is by altering dietetic customs and he suggests, among other things, the reasonable limitation of sugar in the diet. He advises the substitution of crusty bread for the spongy article, the banishment of the pernicious bun and the limiting of puddings to two or three days in the week. On the other hand, he advocates more raw vegetable food in the shape of salads and fruit.

In discussing Campbell's paper, Cautely calls attention to the coincident development of adenoids with the introduction and increasing prevalence of bottle feeding and of rickets. That, however, bottle feeding is not alone responsible among the dietetic errors of infancy is suggested by my own observations upon the possible effect of prolonged nursing.

Whereas, of one hundred and one children who have histories of artificial feeding, beginning at the fifth month or earlier, sixty-one showed, in later life, tonsil and adenoid disease, or sixty-five children who gave a history of having been breast-fed for more than one year, fifty-one showed tonsil and adenoid disease and only fourteen no trouble with tonsil or adenoids. However, in thirty-five cases in which there was a history of the baby never having had the breast, and therefore always artificially fed, twenty-three showed apparent tonsil and adenoid disease.

During the discussion of Campbell's paper, Sim Wallace mentioned as the predisposing cause a depressed vitality of the mucous membrane, and Eric Pritchard said that one of the two conditions productive of hyperplasia was where normal amounts of lymphatic tissue were unable to perform the bacterioidal functions as in the status lymphaticus, the defective power to do its work being due to an excessive carbo-hydrate diet. In his opinion the section upon Disease of Children of the Royal Society before which the paper was read, did not agree with the advisability of surgical treatment but wanted to arrive at a means of rendering surgical treatment unnecessary. He believed that hygienically treated children might have some hypertrophy of adenoid tissue but if they were badly fed their lymphoid tissue broke down and degenerated and their Luschka's and faucial tonsils were unhealthy.

Eustace Smith attributed adenoid overgrowth to direct irritation of the naso-pharynx by postnasal and pharyngeal catarrh and believed that anything which causes depression of the system and lowers nutrition may be looked upon as a predisposing cause.

The reference of Watson Williams to the frequent association of recurrent adenoids and appendicitis with nasal sinus infection is suggestive, although the etiological relationship of the three conditions can be variously interpreted. His view is that the sinusitis is primary, and he apparently believes that the appendicitis may be due to the swallowing of pyogenic organisms.

Brun, in 1911, called attention to the various forms of chronic inflammation of the colon, with alternating constipation and diarrhea, noted in connection with adenoids but attributed the condition to the swallowing of pathogenic germs. It seems less likely, however, that germs transmitted from the adenoid region should retain their virulence until they reach the appendix or colon, and thus have any very direct influence than that all are due to a common cause.

The rather common occurrence of tonsil and adenoid hypertrophies in connection with one of the common disorders of later childhood points rather strongly to a dietetic factor in the production of the growths. I refer to enuresis.

Leonard Williams believes that adenoids and enuresis are associated because they are due to an underlying cause which, however, he considers to be thyroid insufficiency.

Huhner speaks of the uselessness in many cases to attempt to treat enuresis without due regard to diet.

The frequency of nocturnal enuresis in mucus disease is mentioned by Eustace Smith who also speaks of the occurrence in this disease of enlarged tonsils, which secrete a thick, bad smelling, semi-purulent matter.

Still mentions as one of the two operations which are sometimes recommended as if they were almost specific in the treatment of enuresis, the removal of adenoids. He believes the temporary good result to be due simply to psychical impression. This merely temporary relief has been the experience of pediatricians generally where there has not been a concomitant improvement in the general health, and surely if the incontinence were to any extent dependent upon the post-nasal condition, the result of operation should be permanent. The inference, then, must be that the two conditions depend upon a common cause.

Sutherland, in his "Treatment of Diseases in Children," says that in many cases of enuresis it will be found that the child has been systematically overfed or improperly fed, but attributes the trouble not so much to the material as to the quantity of the food, and West, in 1884, drew attention to the fact that in the majority of cases, so long as the affection is recent, a connection may be clearly traced between it and gastro-intestinal disorders.

My dietetic studies incriminate the carbo-hydrates. Campbell believes the carbo-hydrates to be directly responsible.

W. E. Deeks, who has had much medical experience in the Tropics, writing upon the carbo-hydrate diathesis, mentions among the symptoms attributable to starch eating, chronic pharyngitis, which is admitted to predispose to adenoid growth and asserts that if food-stuffs are not taken in approximately the proper proportions, necessarily the excess must be eliminated and the human organism is called upon to do this not only by its own vital mechanism but through the aid of bacteria.

Harston, in his "Children in the Tropics," speaks of the tendency on the part of mothers, owing to the excessive heat, to avoid meat as a diet for their offspring and the consequent giving, especially when native nurses are employed, of an excessive quantity of farinaceous and fermentable foods. Mucous disease results with post-nasal catarrh, and adenoid disease is extremely common.

In this connection Dr. Blair, veterinarian of the New York Zoological Society, tells me that Pekinese, Boston Terriers and French Terriers do well in this country with no rice or potato. His method of treating the nasal obstruction with mouth breathing, which they develop, is by the administration of meat and olive oil. Dr. Blair also tells me that osteo-malacia in monkeys is accompanied by mouth breathing.

As additional circumstantial evidence in favor of diet as the underlying etiological factor, I should suggest the occurrence of the hypertrophies at an age when dietetic excesses are most rampant, the tendency of the growth to atrophy at a time when more sane dietetic habits become established and the frequency of the growth in countries in which carbo-hydrate consumption has increased rapidly within the last few decades. Adenoids are said to be more common among the British than any other people.



Osler is quoted as saying that he thought there were more mouth breathers in England than in any other country. Great Britain is the largest consumer of sweets. This country, second in the list of sugar eaters, probably also stands second in the prevalence of adenoids.

Professor Gradenigo of the University of Naples tells me that in his numerous researches on the hypertrophy of tonsils and adenoids he has never had occasion to acknowledge a marked influence of the diet as an etiological factor. His opinion is based upon the fact that such diseases are found in Italy among the well-to-do classes with more frequency than among the poor and he believes that this brings forth the conclusion that the quality of the food does not have "per se" a great influence in determining the disease. Personally, I should feel that the fair conclusion is the opposite, the rich being more prone to dietetic excesses. I believe that the incidence of the disease among the rich and poor alike points more towards a dietetic cause than towards a hygienic one.

Dietetic errors are certainly common with both rich and poor.

The prevalence of adenoids in British communities all over the world, for which we have Campbell as authority, proves fairly conclusively that climate is not wholly responsible.

Emil Krulish refers frequently to their prevalence among the Eskimos.

In a personal letter, Dr. Krulish, although expressing an opinion that the condition is caused by the inclement weather, says that "it may be possible that excesses of starches and sugars have a bearing from the fact that the chief food of the native people in all sections of Alaska is meat, starches in the form of bread, and sugars in every form obtainable. Their original diet was unquestionably not of this type."

Statistics are too easily distorted to be of real value. My records in which the dietetic history and throat findings have been carefully recorded show a far greater incidence of naso-pharyngeal trouble in connection with distinct dietetic excess apparently proportionate to the seriousness of the error. Where the feeding has been more rationally managed the tonsils are more frequently found to be normal and adenoids less often demonstrable. I have, moreover, been able to follow a sufficient number of cases post-operatively to satisfy myself, at least, of the value of dietetic management in the prevention of recurrences.

We must concede, I think, infection to be the exciting cause. As predisposing causes we must consider, climate, hygiene and diet.

The distribution of the disease eliminates climate as a universal factor. Adenoids have been apparently increasing concomitantly with improved hygienic conditions. In China with its bad hygiene, adenoids are exceedingly rare. The increase in the disease has, on the other hand, come with the increase of dietetic excess and error, the advent and increased consumption of proprietary food and prepared cereals, the increased production and consumption of sugar and the consequent temptation to over-consumption of food and the unbalanced ration. It is evidently a disease of civilization and civilization has lately improved all living conditions with the exception of food.

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### GROUP MEDICINE AND THE HEALTH CENTER AS SUGGESTED FOR RURAL NEW YORK.\*

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The growth of the health centre idea is one of comparative recent development. According to M. J. Davis,<sup>1</sup> the health centre first took organized form in the United States in Milwaukee about ten years ago in connection with child welfare work. Shortly thereafter anti-tuberculosis workers developed similar ideas in Cincinnati. The first work of this kind in New York City was undertaken by the Milk Committee and was directed along the line of child welfare work. Recently the American Red Cross has formulated extensive plans for the wide distribution of health centres, and during the last two years these centres have been rapidly established all over the country. In New York State the first comprehensive project was developed in Buffalo, and there to-day is found a coordinated plan for hospital and dispensary service, home visitation of the sick, public health nursing and health education work. A study of the work and reports of the Department of Hospitals and Dispensaries of that City is advised to all interested in Health Centres.

The term—Health Centre—may convey as many different meanings as there are auditors, and it is therefore necessary in order to intelligently consider the subject to first define the usage of the term.

Plant<sup>2</sup> enumerates five types.

Type I. limits itself to health education along the usual line of exhibit, talks, literature, to functions of an information clearing house character.

Type II. does the above, but also engages in medical treatment of the sick through various clinics.

Type III. resembles a miniature health department, for it carries on in a local district all or nearly all of the functions of the official department of health under a plan of decentralization.

Type IV. is radically different in limiting itself to consultative medical diagnoses of the most modern and scientific character dependent upon a group of experts, and is primarily designed to aid and educate the less highly trained physician.

\*Read at the 1921 meeting of the American Medical Editors' Association.



Type V. is differentiated from the preceding types by reason of its positive emphasis on the possibility and desirability of good health. It is primarily interested in the well or only slightly indisposed person. It gives careful physical examinations to well people. It is not a dispensary, for it does not give medical treatment. It wishes to create a "Will to Health."

The type advocated for New York State by the Public Health Council of the State apparently does not fit into Plant's classification unless we enlarge his Type IV. to include facilities for accurate and complete diagnosis and adequate care of the sick. It is to such a type that I shall confine my remarks.

The increase in knowledge of the medical sciences in recent years has become so great, has progressed with such rapidity, and has come to cover such a variety of subjects, that it has long since become impossible for any one man to keep abreast of all the branches of medical work. Furthermore, large experience and great technical skill and dexterity are required as never before in many lines of laboratory and clinical diagnosis of disease and in the practice of medicine.

A wide general educational training is required of physicians, for medical science is not only closely related to but is absolutely dependent upon a knowledge of several collateral sciences, such as biology, physiology, chemistry, physics and bacteriology. It has accordingly come about that specialization in medicine has developed to a high degree, and there is now a vast difference in many cases of sickness between the results obtained in treatment by a highly qualified specialist using all the resources of medical science, and those ordinarily obtained from treatment by a general practitioner with few or none of these aids.

The complete and accurate diagnosis of disease is almost always difficult, often at best is only approximate and frequently demands all the resources of modern medicine, including the aid of experts for its accomplishment. Experience has further shown that the best results in diagnosis and treatment can only be obtained by the coordinated efforts of a group of specialists working together along the lines commonly known as "group medicine." Regarding the advantages of group practice, Dr. Frank Billings<sup>1</sup> states the following: "Group practice is considered by most members of the profession as a distinct advance in the methods of medical practice. This is undoubtedly true so far as it pertains to the members of the profession forming the group, and that part of the public sick and injured who receive service from the clinic. But if group practice is to succeed in the sense of improvement of medical service in any given community, then the policy pursued must include efficient service and fair dealing with the whole public both lay and medical.

Group practice must deal in a broad-minded, unselfish and sympathetic manner with the physician in the district which it serves. If he does not belong to the group he should be invited to profit by and through its facilities in diagnosis and otherwise, if he desires it. If after diagnosis the condition of the patient is such that he may continue in charge, he should have that right. If the character of the disease is such that therapy requires greater skill than the family physician can give and which the group can furnish, then in due time the convalescent patient should be returned to him with such information as may aid him in the aftercare of his patient."

It is believed that the plan outlined for New York State and the details of which will be given later in-

sure just such a relationship between the physician and the group as Billings describes.

W. J. Mayo<sup>2</sup> creates the following standard for group practice: "Properly considered, group medicine is not a financial arrangement except for minor details, but a scientific cooperation for the welfare of the sick. Medicine's plan is fixed by its service to mankind; if we fail to measure up to our opportunity it means state medicine, political control, mediocrity, and loss of professional ideals. The members of the medical fraternity must cooperate with this work, and they can do so without interfering with private professional practices. Such a community of interest will raise the general level of professional attainments."

As Mayo so well expresses it,—"The greatest asset of a nation is the health of its people. Our failures as a profession are the failure of individualism, the result of competitive medicine." The advantages and disadvantages of group medicine could be discussed ad infinitum, there can be no question as to its success and to the future, but if the standards given above are adhered to there can be no question as to its success and to the benefit which will accrue not only to the sick public but to the practitioner of medicine.

It is not usually recognized that while medical science has made extraordinary advances during the last 25 years, the benefits resulting from the new discoveries are at present available, generally speaking, to a very small fraction of the population only. It is only in the larger centres of population and especially in connection with teaching institutions and large hospitals that the best type of modern medical and surgical practice is generally found. Furthermore, it is noteworthy that while a great advance has been made in the larger cities, in many of the smaller cities and in the rural districts, on the contrary, for a number of reasons the conditions of medical practice has been changing not for the better but rather for the worse. Some of the reasons for this are as follows:

(a) The number of physicians in practice in small towns and rural districts is steadily decreasing. Only one-half as many physicians are now being graduated each year from the medical schools of the country as were graduated 20 years ago, and the number of medical schools has decreased more than one-half. The requirements for graduation and the quality of teaching in the remaining schools have greatly improved, but it is the general opinion of teachers of medicine that as a whole the quality of men who are taking up the study of medicine has not kept pace with the advances in medicine.

The rewards in the practice of the profession are not commensurate with the long period of study required, the cost involved, and the self-sacrificing life which the practice of medicine entails. To commence the study of medicine at the present time in New York State, a student must not only have been a high school graduate, but must have had at least two years' instruction of collegiate rank, including courses in biology, physics, chemistry, physiology, psychology, and at least one modern language. A four years' course in a medical school is then required, and at least one, and often two, years' internship (without compensation) in a hospital. After receiving his degree, before a graduate in medicine can undertake to practice, he must take a licensing examination before the State Board of Medical Examiners. In other words, after a student has finished the course in one of the best high schools he must continue his work for seven or eight years before he can commence to earn his living, and then he learns that the

compensation in all professional positions open to physicians is totally inadequate and relatively much lower than that of other professions. More than this, to fit himself further for a successful career and to gain the experience which is necessary for the successful private practice of medicine, he is expected to serve without compensation for most of his professional life on the medical staff of a dispensary, a hospital or other similar institution. The medical graduate is generally fortunate if he succeed in making his living after three to five years of practice, when he will probably be more than 30 years of age.

From 1911 to 1919 in New York State, exclusive of its largest city, there was a net loss of 46 physicians, the decreased being most pronounced in the rural sections which lost 403 (13.5 per cent.) while the population increased 7 per cent. In 20 strictly rural counties, which in 1911 had 1010 practising physicians, this number had become reduced in 1919 to 889, a decrease of 12 per cent., although the population had grown 4.4 per cent. What is especially significant is the fact that the remaining 889 physicians had been in practice on an average of over 25 years, and only 26 of them (3 per cent.) had been in practice 5 years or less. These 20 counties are located in every section of the State and contain a population of about three-quarter of a million. Similar conditions obtain in the rural sections of practically all of the 57 up-State counties which contain a population of almost two and one-half million. In 165 municipalities which had physicians located therein in 1915 there are none now and in 323 other municipalities this is not a single physician who has been in practice less than 25 years.

New and younger physicians are not entering these districts. The reasons for this are many—the general movement from the rural to urban districts, social conditions, the public school problem—but there can be no question that to a considerable degree the lack of facilities for the scientific practice of medicine is responsible for this condition.

It requires but little vision or imagination to see what will be the result in these districts within the next few years unless there be some radical change. Even now the handwriting on the wall is plain; during the past two years the New York State Department of Health has received appeals for assistance in securing physicians from 82 communities which were without medical service. These were scattered through 37 counties. It has been able to assist less than half of this number, however.

Not only is medical service wanting in many districts but trained nurses are also lacking, and where they are available it is becoming more and more impossible for the average individual to obtain or to pay for their services. Many of the trained nurses in the cities and rural districts are now receiving \$6 per day and board for 12-hour service. This means that in case of serious illness, two nurses are required and the cost is \$12 a day, plus the board of the nurses. When this expense is added to that of medical services, medicines and medical supplies, a daily cost of \$20 or more, possibly \$25 or \$30 per day results—an amount which the average person cannot afford to pay.

Domestic servants are no longer to be obtained except with great difficulty and sometimes not at all in the smaller cities and the rural district, and when people are seriously sick, owing to the lack of physicians, nurses and domestic servants, it is becoming more and more imperative that if they are to receive even ordinary care they shall be removed to a hospital. Fifteen of the

up-State counties, with a population of close to 420,000, have no general hospital facilities located therein. Furthermore, the hospitals available are often inadequate and generally are not so organized as to give the best kind of medical and surgical service. The American College of Surgeons has approved but 14 of the 34 larger hospitals located in the State outside of New York City.

There are no local laboratories in 26 of the 57 up-State counties, and in only 13 counties is the service of the local laboratory available for the entire county. Furthermore, very many of the existing local laboratories are engaged exclusively or almost so, in public health work as such, and very few provide complete clinical, pathological, chemical, bacteriological and x-ray service.

General dispensary service is provided in but 14 of the 58 up-State cities, and 45 counties have no such institutions located therein.

To meet the problem outlined above the Public Health Council of New York State suggested a bill, the board principles of which are to make efficient medical and surgical practice more generally available, to provide more adequate compensation for professional services, to insure better quality of medical and surgical care, and to furnish state aid so that the health centres described can be provided.

The essential features of the bill are as follows:

(1) The board of supervisors of any county is authorized and enabled to establish therein a health centre or centres which shall serve the whole or part of the county, but which shall not include any city or part of a city without the consent of the appropriate city authorities.

(2) Without in any manner repealing or amending existing statutory provisions under which any health function or activity may be carried on by any city in the State, cities are authorized and enabled to establish health centres by action of the appropriate municipal authorities. All of the provisions relating to health centres in counties are also applicable insofar as practicable to health centres when established in cities.

(3) The health centre may include any one or more of the following parts, any one or more of which may be established at any one time.

(a) General hospitals—newly erected or arrangements made with existing hospitals or other institutions (not now supported by public funds) so that they shall form integral parts of the health centre. Existing tuberculosis hospitals may become parts of the health centre of the county by which they may have been established.

(b) Out-patient clinics.

(c) Laboratories—clinical, pathological, bacteriological, chemical and X-ray, ancillary to the laboratories of the State Department of Health.

(d) Public health nursing service—for the discovery and supervision of communicable or other diseases, for visitation of such cases and for follow-up work with patients discharged from the health centre.

(e) Cooperative effort with the State Department of Education in securing proper medical inspection and supervision of school children and in providing the facilities necessary to enable practitioners to administer adequate treatment for all school children showing physical defects or disease.

(f) Periodical medical examinations of such inhabitants of the district as desire it.

(g) Headquarters for other voluntary public health, medical, nursing and other welfare agencies of the district which wish to utilize the same.



(h) Medical library and medical headquarters for physicians of the health centre district.

4. Sub-centres containing any one or more of the above parts of a health centre may be established by the board of managers of the health centre.

5. Occasional or periodical consultations and clinics at the health centres by specialists in medicine and surgery may be provided by the State Department of Health.

6. The board of supervisors of a county has the same power to acquire property and take necessary action in establishing health centres that it now has for the establishment of county tuberculosis hospitals.

7. The board of managers of the health centre is to consist of seven members, including the county judge ex-officio, and at least two practising physicians and one woman, appointed by the board of supervisors, to serve six years (except the county judge) and so designated that the term of one member expires each year. This board is to have substantially the same powers in administering the affairs of the health centre as the board of managers of a county tuberculosis hospital has with respect to the latter institution, viz.:

(a) It shall have general management and control of the health centre.

(b) It shall appoint a superintendent for the health centre who shall be the executive officer of all hospitals, clinics, laboratories and other activities of the health centre.

(c) It shall appoint a medical board which shall have charge of the medical and surgical affairs of the health centre.

(d) It shall appoint all members of the medical, surgical and laboratory staff of the health centre, after consultation with the medical board.

(e) It shall employ public health nurses.

(f) It shall regulate the medical and surgical care and treatment of patients as advised by the medical board.

(g) It shall so far as practicable provide through coordinated work in the different departments of medical practice, adequate facilities for the accurate diagnosis and efficient treatment of disease.

(h) It shall see that physicians and surgeons rendering services in hospitals and clinics are properly compensated for their services.

(i) It shall supervise the erection of additional buildings and the improvements and repairs found necessary after the health centre has been placed in operation.

8. In the selection of the medical members of the Board of Managers by the Board of Supervisors and of the medical board of the health centre by the Board of Managers, the two appointing bodies respectively are empowered to select from lists of physicians which the county medical society is authorized to submit.

9. The superintendent and all persons appointed as members of the medical, surgical and laboratory staff of the health centre shall possess such qualifications as the public health council may prescribe for the respective positions.

10. All persons residing in the health centre district may avail themselves of the health centre facilities including those desiring free or partially free examinations, care or treatment, the latter to be granted these services without discrimination, and for such charges as they are able to pay, to be determined after careful inquiry by the superintendent of the health centre.

11. The facilities provided by the health centre for research, observation, consultation and treatment shall

be open to all local practising physicians, without any interference whatsoever in the private and financial relation which may exist between the patient and his own physician.

12. Every patient in such health centre hospital shall be treated by the physician he may select whether or not such physician is a member of the staff or medical board of such hospital.

13. Funds for the establishment and maintenance of health centres will be derived from the following sources:

(a) Charges for patients able to pay same in whole or in part for their hospital care and laboratory services.

(b) Local public funds to be charged to the district served.

(c) Gifts, donations and bequests of funds or property.

(d) State aid.

14. There shall be grants from the State as follows:

(a) For the construction and equipment of hospitals, one-half of the cost thereof, but the payment by the State shall not exceed \$750 per bed.

(b) 75 cents per day for each free patient maintained in any hospital operated as a part of a health centre.

(c) For the establishment of each out-patient clinic or sub-centre a grant equal to one-half of the cost of installation, the amount to be paid by the State not to exceed \$5,000 per clinic or sub-centre.

(d) A grant toward cost of free treatments in such clinic not to exceed 50 per cent of such cost, and not to exceed an average of 20 cents per free treatment.

(e) A grant of one-half the actual cost of maintenance of laboratories of health centres, but not in excess of \$3,000 per annum for each laboratory, and of \$1,500 toward the initial installation and equipment of each laboratory.

15. Not more than half of the entire amount of State aid available in any one year shall be distributed among health centre districts having a population of less than 100,000.

16. In the event that the total State aid appropriation in any one year is not sufficient to pay in full the State aid due under the provisions of this act, the amount available shall be distributed pro-rata according to the population served by each health centre.

17. The work of all health centres shall be inspected and standardized by the State Department of Health, and no State aid shall be given unless the area of the district, site, design and construction of the buildings, equipment, work and conduct of the health centre shall be first approved in writing after inspection by the State Commissioner of Health. After receiving such approval the Comptroller shall determine and pay the amount due in any year to the authorities of the various health centres.

18. The Board of Managers may appeal from any decision of the Comptroller or the State Commissioner of Health to a commission composed of the chairman of the finance committee of the Senate, the chairman of the ways and means committee of the Assembly, and the State Commissioner of Health. The action of this Commission shall be final and conclusive.

19. Each of the district branches of the State Medical Society may appoint a representative to act on an advisory medical board which is created. Such board shall at the request of the State Commissioner of Health consider any matter relating to the enforcement and administration of the provisions of this act, and may ad-



vise the Commissioner and submit recommendations to him.

It is confidently believed that the operation of a plan such as the above will serve to attract younger men to counties where there are health centres.

It is not expected that there will ever be an actual increase in the number of physicians in these districts, but when the time does come when the older practitioners have completed their work, there will have been established a medical centre complete in all details in each district to which the sick may go for diagnosis and treatment, and others for periodic examination and advice. Such a centre also will be the headquarters of a staff of public health nurses.

There are some who feel that the health department should not take the initiative in an undertaking such as has been outlined; these individuals believe that the efforts of the health department should be confined merely to communicable disease, sanitary improvements, tabulations of vital statistics, etc. Article I. Section 2c, of the Public Health Law of New York State grants the following power to the Public Health Council:

"It shall, at the request of the Commissioner of Health, consider any matter relating to the preservation and improvement of public health \* \* \* and \* \* \* submit to the Commissioner any recommendations which it may deem fit." It is submitted that these recommendations are for the improvement of public health. Newsholme<sup>5</sup> says: "The treatment and prevention of disease cannot administratively be separated without injuring the possibilities of success of both."

As a further argument to show that the health centre plan is a step forward in public health, the following is quoted from Vaughan<sup>6</sup>: "The death rates in rural districts have not been materially lessened in the last 20 years, while they have been reduced in the large cities. This difference is not wholly, nor do I believe even largely, due to better or more complete prevention of the communicable diseases, but is largely due to the better facilities for diagnosis and treatment possessed by the profession at large."

The members of the medical profession in New York State have been almost unanimously opposed to the health centre bill, but after discussing the matter with many of them individually and after listening to their arguments at public hearings one cannot but become impressed with the fact that the opposition is largely due to a misunderstanding of the intent of the bill. The most frequent argument is that the passage of this bill will result in State medicine, but as a matter of fact there are but two powers granted to the State Department of Health under the bill—first, the proposed health centre must be approved by the Commissioner of Health in all essentials before State aid may be given, and second, the public health council of the State shall establish the qualifications which the superintendent and members of the staff of the health centre shall possess. The medical administration of each centre is very largely under the influence of the county medical society.

Practitioners in the State of New York have been resentful for years over the passage of the Workmen's Compensation Act. The attempt to force through compulsory health insurance in recent years has only served to make them more apprehensive and at present they resist any legislation which seems to change the status of medical practice. But if the standards of medical education are to be made secure on the present high plane—if the bars of medical practice are not to be let

down to the various cults, and if we are to insure the medical practitioner against health insurance and actual State medicine, some constructive policy must be adopted. To again refer to Newsholme<sup>5</sup>, he states, in speaking of the increasing socialization of medicine, "The most urgent element consists in the organization of hospital and consultative expert service for all."

Another argument presented by many against the bill is the fact that the cities in the State will be taxed to pay for rural improvements. This is admitted, but why should this not be the case? Are not the inhabitants of the city absolutely dependent for their very existence on the country? If the health of the rural districts be broken, will the cities not suffer even more than the districts primarily affected? The taxes paid by the cities are used for purposes of education in the country and the supplying of public health to the entire State should be equally the duty of the city. As Newsholme<sup>5</sup> says: "If communal provision has been recognized as a duty for police protection, for sanitation, for elementary education, should it not likewise be admitted for the more subtle and maleficent enemies of health which have been recognized, but which in no community have hitherto been completely combatted?"

It is confidently believed by those who have studied the problem that the plan advocated above is not only practicable and desirable, but also that some plan of this sort will be absolutely necessary if industrial workers, inhabitants of rural districts and others of moderate means are to have adequate medical care which at present they often do not receive and cannot command. It is further believed that it will be a distinct advance in preventive medicine, will contribute immeasurably to public welfare and that its cost will be insignificant compared with the benefits to be derived.

In conclusion let me again quote Newsholme<sup>5</sup>—"Any service provided will need to be kept free from political pull. This spells inefficiency; and inefficiency means disease and death. Political pull, although not in the official list of Causes of Death is among the most potent causes of excessive mortality."

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- <sup>4</sup> W. J. Mayo, J. A. M. A., Vol. 76, No. 14, p. 981.
- <sup>5</sup> Sir Arthur Newsholme, Public Health and Insurance. American Addresses.
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#### Fate of Children with Congenital Syphilis.

Husten emphasizes the necessity for enforcing compulsory treatment of children with congenital syphilis. In his experience at Freiburg with thirty-nine cases in the five years ending 1918, half the children soon died from intercurrent disease, and only sixteen are known to be living now. A third died of those given partial treatment, but only one of those given thorough courses. Of the fourteen still living and re-examined personally, 50 per cent. are imbeciles or idiots. He endorses the bill now pending in the German legislature, which makes notification compulsory for all children born with congenital syphilis, and also makes treatment of venereal disease compulsory and gratis.—(*Archiv für Kinder*, May 21, 1921.)

#### Pernicious Anemia.

Levine and Ladd find that of 141 cases of pernicious anemia only six were positive when tested by the Wassermann reaction. The average incidence of a positive Wassermann reaction in all medical admissions to this hospital (Johns Hopkins Hospital) is about 12 per cent.—making the incidence among these cases one-third of the average. Antisyphilitic treatment has had no effect upon the course of the disease. The conclusion is warranted that in these cases, syphilis has borne very little relation to the development of pernicious anemia.—*Bull. Johns Hopkins Hosp.*, August, 1921.)

**PROSTATIC HYPERTROPHY\***

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The sexual apparatus, together with its physiology and pathology, always was, is, and ever will be of prime importance to man. As a chain is no stronger than its weakest link, a discussion of any part of that portion of the anatomy, particularly the prostate gland, should be of special interest, inasmuch as no male has any assurance that he may not be a victim of prostatic hypertrophy. This condition exists in thirty percent of all men over sixty years of age, and in a smaller percentage between the fiftieth and sixtieth years.

The prostate gland is a structure accessory to the true generative organs, and secretes a viscid, opalescent secretion in which spermia will live, and which furnishes a medium in which they maintain the motile activity necessary to carry them to their destination. It is a pale, firm, partly glandular and partly muscular body, which is placed immediately below the neck of the bladder and about the commencement of the urethra. It is situated in the pelvic cavity below the lower part of the symphysis pubis, above the deep layer of the triangular ligament, and in front of the rectum, through which it may be distinctly felt, especially when enlarged. The base is directed upward and is applied to the under surface of the bladder. The apex is directed downward and rests upon the deep layer of the triangular ligament. The urethra penetrates it nearer its anterior than to its posterior border, so that in the upright or standing position, the prostatic urethra practically runs straight downward. In size, the normal prostate gland measures  $1\frac{1}{4}$  inches from base to apex;  $1\frac{1}{2}$  inches at the base from side to side, and  $\frac{3}{4}$  of an inch in its antero-posterior diameter. Its musculo-glandular substance is enclosed by a firm but thin musculo-fibrous capsule, which is pierced by the common ejaculatory ducts, which, passing through the substance of the gland, open into the prostatic urethra.

Hypertrophy of the prostate is the most important and the most frequent pathological change that is met with in this gland after the fiftieth year of life, and is responsible for the vast majority of bladder and urinary symptoms met with in these cases, symptoms not due per se to the hyperplasia itself, but resulting from the mechanical effect on the function of urination. Microscopically, the benignant adenoma or fibro-adenoma have been shown to be the nature of the growth in from eighty to ninety percent of the cases of enlarged prostate, which may reveal a hyperplasia either of the parenchyma or the stroma, a retention of individual gland contents with cystic degeneration, or, a combination of these changes. More rarely, spheroidal cell carcinoma of an intensely scirrroid type, which does not lead to any extensive enlargement of the organ, may coexist. Ordinarily, three types of enlargement are met with, singly, or in combination: The bilateral, intraurethral and middle lobe.

Under the fiftieth year, enlargement of the prostate, which is rarely a true hypertrophy, is generally due to pure congestion, resulting from sexual irregularities, or to inflammation or abscess, which in turn are due to gonorrhea, or to traumatism following instrumentation.

The cause of prostatic hypertrophy is unknown. Gonorrhea, sexual activity and senility have been advanced as etiological factors, but the history of many cases shows the nonexistence of gonorrhea, and in one of my recent cases, practical impotency of lifelong duration existed

with no history of gonorrhea. From another, a man vigorous physically, and only fifty years of age, a large prostate was removed. Senility can hardly be held responsible in this case. Again, if gonorrhea were the cause, the percentage of men affected would be nearer eighty than thirty percent.

The earliest symptom of prostatic hypertrophy is frequency in urination by day and by night, the number of calls depending upon the amount of fluids imbibed, and the nature of the same.

Sexual excitement, or the warm bed, when the bodily functions are at maximum rest, increases the nocturnal frequency by producing an increased congestion of the prostate gland. This symptom of frequency is an insidious one, so much so, that it seldom causes any alarm at its inception, but when it is later on accompanied by difficulty in urination, general debility in health from loss of sleep, or finally, by retention which forces the patient to seek medical advice, he will usually recollect that it preceded his present plight for perhaps many years. Frequency in urination in the later stage, may be accompanied by hesitancy in starting the urinary flow, which, when it does start, lacks the natural projectile force, the urine coming away in a small stream, often stopping momentarily, and beginning again in a jerky-like manner, the so-called stuttering urination. Much effort is sometimes required to pass enough urine to satisfy the present call, during which, a bearing down and grinding effect of the detrusor muscles of the bladder, and the accompanying squeezing of the highly congested prostate, result in a painful burning sensation, tenesmus and terminal hematuria, and is frequently responsible for the production of hemorrhoids.

These patients often tell us that especially upon rising, they pass a little urine, but within several minutes thereafter, they have to try again, and, as a rule, the second attempt is more successful. This they repeat, perhaps, two or three times within the first hour after rising, and then feel relieved. Here again, the light physical effort incident to walking about room, by its requiring more blood to the general economy, slightly depletes the pelvic organs in which the warm bed and bodily rest had an opposite effect. Very often the patient puts up with all these annoyances, until he is attacked by retention of urine. This may come on without warning, or any discoverable exciting cause, but is usually due to some indiscretion in diet or drink, or cold and wet, which simply causes an added congestion to the already chronically congested and swollen mucosa of the hypertrophied prostate. For this distressing condition, relief is quickly sought, and when relieved by catheterization, a respite is sometimes obtained, but sooner or later, retention again occurs.

To recapitulate, in a man over fifty years of age, and more especially over sixty, complaining of frequency in urination by day and by night, with difficulty or hesitancy in starting a non-projectile urinary flow, and with burning, tenesmus, hematuria or retention supervening, all of which symptoms are at once visualized by the word prostatism, the prostate should be at once considered as the probable underlying cause. A new growth, stone, gonorrhea, urethral stricture, spinal disease causing retention of urine, or renal disease, especially tuberculosis, are, of course, to be kept in mind, and eliminated by proper diagnostic methods.

When a patient with the above urinary symptoms presents himself for examination, the first thing we should do is to request him to pass all of his urine into a clean glass. A sterile soft-rubber catheter, No. 14 Fr., well lubricated, is then gently passed into the bladder and

\*Read before the N. Y. Celtic Medical Society, November 17, 1921.



the residual urine, if any, is drawn and measured. In passing, I would recommend that on account of the distortion of the prostatic urethra, and the bar-like elevation of the bladder orifice, the soft rubber be given preference over all other catheters; that failing to pass it, we should next try a coudé or bicoudé gum elastic catheter, avoiding the use of metal catheters, as they are dangerous weapons even in the hands of an expert. Their use often accounts for the production of false passages through the succulent tissues of the gland. After the urine is drawn and measured, the finger is introduced into the patient's rectum, and the prostate gland palpated, noting its size, contour and consistency. The benignant adenoma or fibro-adenoma imparts a firm elastic sensation to the finger on gentle palpation, and may be likened to that felt in pressing on a small rubber ball distended with water; whereas cancer presents a board-like hardness to the touch, which, if elicited, leads us to suspect malignancy, and at once puts us on our guard in giving a prognosis, until a pathological diagnosis has been made after its removal.

Cystoscopic examination should now be performed, and by its aid, a new growth or stone, which may be coincidentally present, is detected. The neck of the bladder and the projecting lateral or median enlargements are readily seen, and an estimate made of their size and the direction in which they are growing, which observations may be found quite out of proportion to the symptoms complained of by the patient, or our tentative opinion formed by the amount of residual urine and rectal palpation led us to suspect. Unless we have some good reason to believe from the urinary examination, that the kidneys are largely responsible for the patient's condition, catheterization of the ureters is unnecessary, and often very unwise, especially if we find sufficient evidence to explain the symptoms by our combined rectal and cystoscopic examinations. In making our investigation of the bladder, the greatest possible gentleness should be exercised, not only for the patient's comfort, but to avoid unnecessary traumatism, for bleeding, which is sometimes unavoidably induced, if active, frequently results in negating our efforts to see, often frightens the patient away, and may be the cause of chills and fever from absorption at the traumatized area.

A thorough urinary examination, an estimation of blood urea, and the P. S. T. test should be made, which enables us to arrive at a fair conclusion regarding the presence of kidney disease, and the functional capacity of those organs, which, if satisfactory, and no other contraindication exists, an operation should be advised for the removal of the prostate.

Where there is reason to believe that any operative interference would be likely to result fatally, palliative treatment is indicated, which consists, so far as the urinary organs are concerned in necessary catheterization and local antiseptic applications to the bladder and prostate, after withdrawing the urine, such as irrigations with boric acid solution or the instillation of argyrol, or one of the other preparations suitable to the case in hand. Internally, hexamethylenamin, grains ten in water, three times a day, acts as a urinary antiseptic. The avoidance of alcohol and highly seasoned foods, such as asparagus, rhubarb, raw tomatoes, condiments, vinegar, strong tea and coffee, should be advised, together with general instructions warning the patient to protect himself against cold damp weather, wet feet and long automobile rides, as they increase the calls to urinate, and threaten retention of urine.

There is still another class of cases of prostatic en-

largement, where the subjective symptoms are mild, despite the fact that the gland itself may be several times its normal size, as felt per rectum. They may even have a small amount of residual urine, varying from one-half to one ounce. These patients enjoy good general health, have no acute urinary symptoms, but are annoyed or worried from occasional inconveniences, such as a feeling of fullness in the perineal or hypogastric region, associated with some frequency in urination of a transitory nature, which subsides without any assistance from the doctor. They are averse to an operation, with its attendant risk and consequence to their sexual power, and upon being made intelligently familiar with their condition, exercise much discretion in their daily life, to the end that they may thus avoid it. Many such cases have a fair chance to go on for years, and I have in mind several such. Palliative treatment is her called for, as I believe it our duty to help ward off operative intervention. I am not of the opinion that every man who is discovered with some enlargement of his prostate, should be influenced to part with it on general principles, or for the fear that later on in the indefinite future, it may cause serious trouble, for many such may never reach the stage where operation is the only recourse, but may die of other causes remote from the local condition.

Where operation is decided upon, after proper investigation, I believe it may be done more safely by adopting the two-stage procedure. However, in exceptionally good surgical risks, it may be completed in one sitting. Morphin sulphate,  $\frac{1}{4}$  of a grain, and atropin sulphate,  $\frac{1}{150}$  of a grain, are habitually hypodermatically injected one hour before operation. The two-stage procedure consists in first, a simple suprapubic cystotomy, preferably under local anaesthesia, using one-half of one percent novocain solution, which is injected along the site where the incision is to be made. At the same time, two ounces of a one percent solution are injected into the bladder, which has been previously drained of urine. In order to get the maximum amount of anaesthesia from these injections, the operation should not be commenced for ten minutes after their administration. The usual median incision is made down to the recti, which are separated by the fingers, and the wound well retracted; the bladder is now distended with air, which brings it up into the field of operation. The fat and peritoneal fold are separated from it and pushed to the upper angle of the wound with a gauze wipe, twisted around the end of the finger. Retention sutures are now placed in the bladder, and the wall incised. The interior may now be quickly explored by the index finger, the prostate palpated, and stone, if present, removed.

The space of Retzius and the peritoneal cavity are now walled off from the wound by suturing the bladder to the muscles at the upper and lower extremities of the incision. The suprapubic tube is then properly placed, the wound closed, and the bladder drained for one week.

Irrigations are given once a day through this drainage tube, which has, running along side of and attached to it, a smaller tube of No. 16 Fr., through which latter the solution is injected. Hexamethylenamin, grains ten in water, t. i. d. is given, together with fluid or light diet. The second stage is performed under general anaesthesia, through the suprapubic opening. The right index finger is introduced into the bladder, and the prostate palpated. We will find that it has appreciably diminished in size, as a result of drainage and reduced congestion. The capsule is cut through with a pair of scissors, and with the aid of two fingers of the other hand in the rectum



pushing up and steadying the prostate, the lobes are enucleated. When this has been accomplished, pressure on the bleeding capsule through the suprapubic opening is made for a few minutes with a sponge on a sponge-holder, or the bladder may be irrigated with alum, one dram to the pint of hot water, with good hemostatic effect. Of late, I have not used any packing, the Hagner bag, nor any other mechanical device, to control bleeding, because the tissues contract, and the empty capsule fills with blood-clot, which is sufficient.

A full-sized sound is now passed into the bladder to make sure that no obstruction exists, and over its tip, which is felt in the bladder, a soft-rubber catheter is fitted and withdrawn through the urethra. The proximal end of the catheter is tied with a silk ligature, the free end of which is then tied to the distal end of the catheter, which is brought out through the lower end of the suprapubic wound. This serves a double purpose: first, by its mechanical presence, it moulds the torn prostatic urethra, thus preventing any shreds of loose tissue from occluding the internal orifice, and insuring patent continuity between the bladder and the urethra, and secondly, by its adjustment, after the suprapubic tube is removed, functioning as an indwelling catheter. The suprapubic tube is now returned into the bladder and the wound closed. A one-half inch gauze drain is placed around the tube, and outside of the bladder as a capillary drain for the suprapubic wound. Gauze dressings, held in place by adhesive plaster are now applied which completes the operation. Evidence of shock calls for a hypodermoclysis of normal saline solution with adrenalin chloride and other indicated supporting measures.

The after care of the case is of as much importance as the operation, and merits the personal daily attention of the surgeon. It is my custom to avoid irrigating the bladder for the first twenty-four hours, so as not to disturb the clot of blood in the prostatic capsule. The patient is kept warm and is protected from drafts. When he comes out of the anaesthetic, a hypodermic injection of morphine should be given to prevent spasm of the bladder neck, and when he is conscious, it should be repeatedly explained to him that any desire to urinate should be controlled, for the reason that he cannot void, because he is draining through the tube, and that efforts to urinate may cause secondary hemorrhage.

The nurse should be instructed about the drainage tube, and told the reason for its presence; that she must watch it and see that it does not kink, or is not pulled upon by the patient, pressed upon by the bed-clothes, nor disturbed in changing the dressing. The drainage is collected in a bottle hung from the side of the bed, its character noted, and the amount measured and recorded. After twenty-four hours, the bladder is gently irrigated with boric solution, and the dressing changed. This is repeated each succeeding 24 hours until the tube is removed, which is on the third or fourth day. The indwelling catheter, if it is well tolerated by the patient's urethra, may now be utilized to drain the bladder, which will allow a quicker closure of the suprapubic wound. Whether or not this is resorted to, the wound edges are approximated and so held by adhesive plaster strips, and gauze pads applied to catch the urine, which leaks through the suprapubic opening. The patient may now be propped up in bed with pillows and within a few more days may sit up in a chair. Then follows a period varying from eight or nine days to three weeks before the urine is voided naturally. When urination once commences, even though in small amounts, we may look for the full function to quickly return. In this connec-

tion, it is well to tell the patient that although he now urinates, the suprapubic wound will open and reclose several times before it is permanently healed. After he has left the hospital, the cystitis which remains as a natural consequence of the traumatism incident to the removal of the prostate, should be treated by irrigation, two or three times a week, together with hexamethylenamin, internally.

In conclusion, I wish to emphasize the danger attending the use of the metal catheter in cases of prostatic enlargement; to recommend the importance of a cystoscopic examination whereby very valuable data may be obtained, and to advise that prostatectomy be performed in two stages, as it affords the patient the greater margin of safety.

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#### HOT SPRINGS AND THE MODEL FEDERAL VENEREAL DISEASE CLINIC.

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The realization of the importance of uniform treatment of the venereal diseases has been partly accomplished by the establishment of the first model clinic of its kind in the world. It would be very much amiss to omit the cause for selecting the present location both on account of its natural geographic importance and, secondly, on account of the whole-hearted efforts of the men who are giving their services in treating the indigent and unfortunate people who have come to this mecca whose waters gush forth from the hillside to the extent of more than a million gallons per day.

Hot Springs, Arkansas, is picturesquely situated in the lower part of the Ozark Mountains from whose slopes and wooded hills flow the springs of hot water whose powers to alleviate certain bodily ills have been known for generations. The great American Spa is a jumble of happy memories for many who have been there—a medley of pleasant anticipations for one who is planning to go—be he tourist, patient, or scientist.

Poets of all ages have celebrated the purity of springs and there was an ancient spring on Mount Parnassus sacred to the Muses and to Apollo, to drink from which was to become imbued with poesy. Through all time has run a legend of a fountain of youth, the waters of which had potency to stave off age and death.

So the legend continues to our own American history. The hot springs were probably visited in 1541 by De Soto, who died the following spring on the Mississippi, only one hundred miles away. According to traditions the curative properties of the Springs were known to the Indians long before the advent of the Spaniards. There is a tale that the various tribes battled from time to time for the control of the hot waters in which they believed the "Great Spirit" to be ever present, but finally a truce was declared under which their benefits were extended to the sick of all tribes.

It is believed that this knowledge was prevalent among the hardly pioneers and explorers, who brought back stories of the wonderful cures. The first authentic evidence dates back to the year 1800 when it is believed a white settlement was made here in Arkansas—in the wild and picturesque valley overlooked by rugged mountains, cooled by mountain breezes in summer, sheltered in winter by the peaks that rim its basin. In December, 1804, Dunbar and Hunter visited the place and found an open log cabin, and a few huts built of split boards. In 1807, Manuel Prudhomme built a cabin there and was joined the same year by John Perciful and Isaac Cates.

The hot springs are forty-six in number and are located in the United States reservation which is the oldest national park in America. The preservation of the waters of the springs in perpetuity free from monopoly and reasonable commercial exploitation, was accomplished by an Act of Congress in 1832. This national park contains nine hundred and eleven acres, which have been improved by many miles of walks and mountain drives, together with woodland tracts for walker and horse-back rider, leading through pine-scented glades and glens and over mountain tops of unusual charm. Nearly every visitor notes the beauty of the green pines in contrast with the other shades of green of other shrubbery.

The scenery, the sunsets, and the whole psychological atmosphere give ill and healthy alike, an inspiration and different view of life. This reservation is under the supervision of the Department of the Interior. There is also an Army and Navy General Hospital for the benefit of officers and enlisted men of the military and naval service of the United States, cadets at the United States Military and Naval Academies, officers of the Revenue-Cutter Service, Officers of the Public Health Service, and honorably discharged soldiers and sailors of the regular and volunteer army and navy of the United States, who are suffering from such diseases as the waters of the hot springs of Arkansas have an established reputation of benefitting.

The waters range in temperature from 102 to 147 deg. F. The source of the heat is believed to be great masses of igneous rock intruded in the earth's crust by volcanic agencies. Deep-seated waters converted into vapors by contact with this heated mass probably ascend through fissures toward the surface where they meet cold springs, which are heated by the vapors. The waters according to Government analyses contain large quantities of dissolved matter. The geologist states that nearly every mineral is found in Arkansas. Dr. Bertram B. Boltwood of Yale University found the waters to be radioactive to a very marked degree, and by comparison these tests showed the properties of the gases in Hot Springs' water to be identical with those of radium emanation. It occurs to the author of this article that the question of oligodynamics might be a factor that has been overlooked. The action of superheated water vapor would be very conducive to the development of these oligodynamic properties.

The opinion of resident physicians of marked ability and experience is that the use of baths and internal administration of the hot waters in connection with regular medical treatment, are indicated in gout, rheumatism, stiff joints, skin diseases, syphilis, nervous affections, paralysis, spinal diseases, uterine diseases, etc.

The hot water baths are much more stimulating and exhilarating than baths of ordinary water at the same temperature. Furthermore, the waters undoubtedly speed up metabolism by increasing the eliminating features of the metabolic processes. The humidity of the atmosphere, together with the baths stimulate sluggish and torpid secretions, the muscles, the skin, the nerves and the circulatory system which only substantiates the previous statements, thereby preventing intoxications due to putrefactive processes. The outdoor life, the general desire to get well—highly psychological, the rapid elimination caused by baths, exercise, and medication, all combine to give an ideal location for the treatment of disease.

The only physicians allowed to prescribe the waters of hot springs are those licensed practitioners of the State of Arkansas who have been examined by a Fed-

eral Board of Medical Examiners appointed by the Secretary of the Interior. Complete information on this subject is found in "Rules and Regulations," issued by the Department of the Interior.

The type of men of whom we have formerly heard of as "drummers" is fast becoming extinct. The men who are coming into this new group at Hot Springs represent the newer thought and typify all that is learned, ethical, fair and just. It was my privilege to become well acquainted with a great many of these physicians and I cannot say too much of their earnest endeavors and the manner in which they keep themselves acquainted with scientific progress.

The mercury rubbers are still to be found. In fact, every known method of administering mercury is used in Hot Springs.

The bath houses are under Government supervision. There are approximately twenty of these houses with a scale of rates for baths approved by the Government.

The Government free bath house for the indigent was established pursuant to Act of Congress of December 16, 1878. This bath house was replaced and a new one dedicated November 14, 1921. During the course of construction, the United States Public Health Service, through the efforts of Dr. O. C. Wenger, realized the value of combining a free bath house and a model venereal disease clinic. Through co-ordination, the Department of the Interior and the United States Public Health Service have succeeded in securing a model structure suitable for providing baths and venereal disease treatment all under one roof.

The building is equipped with modern appliances suitable for carrying out this work. When it is completely organized, five thousand patients per day can be efficiently treated in this clinic. In order to carry out these intentions, the clinic is a teaching clinic so provided that physicians may learn the best methods of treatment and use of drugs at minimum expenditure. The clinic is under the direction of Dr. O. C. Wenger, Regional Consultant, United States Public Health Service. In order to gain greater co-operation, the Army and Navy are providing medical assistance, each department detailing men for a definite period of time.

The clinic is under the supervision of a board and the departments function as illustrated in the diagram below. The local specialists have co-operated with the Government officials and are giving their time at the clinic which operates daily.

Social service, interdepartmental work, Red Cross, all working toward a unified effort in organization, assist in providing the first model teaching clinic of its kind in the United States.

#### *U. S. Public Health Service.*

Director of Clinic, Dr. O. C. Wenger.

#### *Department of Interior.*

Superintendent, Dr. W. P. Parks.

#### *Advisory Board.*

Dr. W. P. Parks, Dr. W. H. Deaderick, Dr. W. T. Wootton, Hot Springs, Ark.

Dr. C. W. Garrison, State Health Officer, Little Rock, Ark.

Dr. W. F. Smith, Baptist Hospital, Little Rock, Ark.

#### *Department of Syphilis.*

Dr. Grayson Tarkington, Chief of Clinic.

Dr. C. H. Tillotson, Visiting Physician.

Dr. D. D. Stough, Visiting Physician.

Dr. Foster Jarrell, Visiting Physician.

Capt. Martin, M. C., U. S. A., Detailed from Army.

#### *Department of Genito-Urinary Diseases.*

Dr. M. F. Lautman, Chief of Clinic.

Dr. Howell Brewer, Visiting Physician.

Dr. P. Z. Brown, Visiting Physician.

Dr. W. C. Minnich, Visiting Physician.

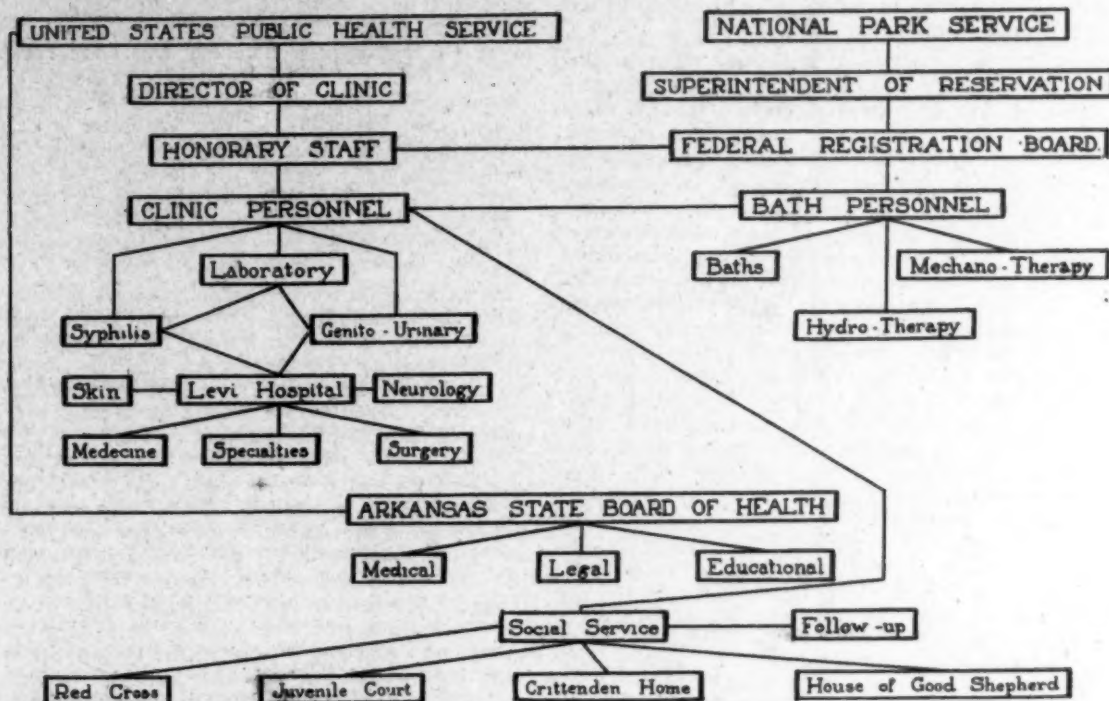
Lieut. H. W. Blesse, M. C., U. S. A., Detailed from Army.

#### *Department of Dentistry.*

Dr. Watson, Dr. Brown.



## ORGANIZATION CHART



The principal need at the present time is constructive suggestions, whole-hearted co-operation and the proper encouragement so that these scientists may go forward in the endeavors already begun.

Careful consideration of the chart, which is not a theoretical presentation but one which is actually functioning, shows the scope of the efforts which the director of the clinic has put into realization.

In the department of syphilis intramuscular bichloridol is being used as a source of mercury. The Division of Venereal Diseases under the direction of Assistant Surgeon General C. C. Pierce has decided to use arsphenamine, which has been shown to be more efficacious, weight for weight, than the neoarsphenamine. It has been demonstrated that arsphenamine can be given without reactions when the solutions are properly alkalinized and uniformly prepared. In order to assist in making this new clinic a success the manufacturers have gratuitously placed the drug at the disposal of the clinic. This means that manufacturers contribute about 5,000 doses of the drug. The clinic up to Feb. 15 was equipped with salvarsan, bichloridol, and novocain, furnished by the H. A. Metz Laboratories, Inc., without expense to the Government.

As each unit contributes to the success of the clinic, thus each adds something toward the alleviation of the bodily ills of those who find themselves in Hot Springs. It is a place where the investigator can well afford to spend a vacation studying the advantages of drugs by various routes under conditions where metabolism is quite different from the ordinary rate. For true it is, the climate and the baths have driven the sluggishness from his blood and created the energy to work which is necessary for everyone to have to put forth his best efforts.

### THE EMPLOYMENT OF INTELLIGENCE TESTS IN THE CONTROL OF IMMIGRATION.\*

G. ALFRED LAWRENCE, LL.B., Ph.D., M.D.,

MAJOR, MEDICAL RESERVE CORPS, U. S. A.; FORMERLY ADJUNCT PROFESSOR NERVOUS AND MENTAL DISEASES, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, New York.

In the presentation of this subject I wish to first make mention of various factors pertaining to the admission of aliens or foreigners into the United States; secondly, some mention of the extent of crime, insanity, mental deficiency, educational retardation, vocational inefficiency, hereditary abnormality and economic dependency in our midst and the large part the foreign-born element in our Nation play in this difficult problem; thirdly, the rapidly increasing extent to which intelligence tests are being employed to assist in solving such problems; and finally, the applicability of, and the employment of suitably selected intelligence tests in a proper manner by well-qualified and experienced psychiatrists and psychologists as a prophylactic measure and as an aid in the solution of our immigration problem, by excluding a still higher percentage of undesirable aliens than by present methods alone.

It is of vital importance to admit only those of sufficient intelligence, who, at their vocational level, can become good citizens and carry on successfully in their new environment and thus become an economic asset and not a liability or expense to the community at large.

The maudling sentiment that America should receive with open arms the poor and oppressed of all the other nations of the earth, regardless of their mental or physical qualifications should give way to the more sane and

\*Read before the Society of Medical Jurisprudence, at the New York Academy of Medicine, November 14th, 1921.

human view that only normal units, both physically and mentally, can make for a normal healthy efficient body politics or virile nation, and only such should be allowed to become prospective candidates for citizenship of our great Commonwealth.

According to the latest issued annual report of the Commissioner General of Immigration to the Secretary of Labor, 33,880,104 immigrants passed through regular channels of our Bureau of Immigration from the year 1776 to 1820 inclusive. Millions of them and their descendants make up a large per cent of the population of the United States today. During the year 1920, 430,001 entered the United States for permanent residence.

In addition to the above, 191,595 non-immigrant aliens entered the United States for temporary stay—on business, travel, etc. Furthermore, 933,081 alien seamen came into various ports during the same period—making a grand total of 1,566,452 aliens of the above classes entering into the United States for permanent or temporary residence. The largest incidence of permanent immigration to our shores occurred during the year 1907 when 1,285,349 aliens entered the United States for permanent residence in addition to those of the non-immigrant and sailor alien classes, 11,795 of those seeking admission to our country during 1920 were debarred for various reasons—5,297 on the ground that they were likely to become a public charge, 1,639 under the illiteracy test, 1,241 stowaways, 1,164 contract laborers, 541 due to loathsome or contagious diseases, 355 criminals, 353 physical defectives, who, owing to such disability were unable to make a living, 216 insane and other mental defects, 185 prostitutes or guilty of other immoral practices, 291 children under 16 years of age unaccompanied by parents, 60 Chinese, 56 Japanese and 27 natives of other barred Asiatic zones. Of the 216 mental cases, 9 were idiots, 20 imbeciles, 49 feeble minded, 83 insane and epileptic and 38 constitutional psychopathic inferior. There were 61 cases of tuberculosis, 8 chronic alcoholics and 1 alien enemy refused admission.

Two thousand seven hundred and sixty-two aliens were deported after admission, including some 1,500 from insane institutions in all parts of the United States, leaving some 1,500 additional insane in these institutions to be deported at a later date. Russians, however, cannot be deported at present. In addition to the 1,500 insane patients, there were also deported after entry 148 sexually immoral, 292 anarchists, 155 criminals. In these three latter classes, deportation can be effected without regard to length of residence, whereas in the case of aliens who fall into distress here or need public aid from causes arising subsequent to their arrival, they may be deported at Government expense only up to 3 years after landing. It is needless to say that this latter procedure, even if effected, involves a considerable force of assistants and much expense, as these individuals are scattered all over the United States.

The illiteracy test—ability to either read or write some language—went into effect in May, 1917, and since then 5,083 aliens have been excluded and 704 expelled after entry. During 1920, however, 15,094 aliens unable to read or write were admitted under various exceptions to this literacy test—mostly in order to join relatives already in this country. It was estimated that 1,617,018 aliens were admitted into the United States during the period from 1908 to 1918 that would have been excluded had these tests been in effect during that period.

There are some 15 principal ports of entry by which the major portion of aliens enter the United States, including New York, Boston, Philadelphia, Baltimore,

Norfolk, Jacksonville, New Orleans, Galveston, San Francisco and Seattle.

At Ellis Island in the harbor of New York the major portion of all aliens enter the United States.

In 1920, 328,269 aliens applied for permanent entry, of which 325,799 were admitted, and 1,722 debarred. Of the latter, 704 were stowaways, 324 illiterate, 264 vagrants, beggars or paupers likely to become a public charge, 170 tubercular or having loathsome or dangerous contagious diseases, 70 were mental defectives including insanity, 86 physically defective, 41 contract laborers, and the balance under miscellaneous statutory charges. About 60 per cent arrive in the steerage and 40 per cent in cabin, and most of the latter enter temporarily.

Each immigrant is examined in line for a fraction of a minute by a medical officer, then sent to the stripping rooms, where partially undressed, he or she receives a rapid general physical examination and if suspected of mental defect is sent to the psychiatrists for further examination. Some 800 or 900 on an average are thus examined daily at Ellis Island at present.

A few months after our entry into the world war, on October 16th, 1918, an Act was passed by Congress empowering the deportations of anarchists, communists and kindred classes and as a result 5,600 warrants were issued and 798 aliens under this class were deported and 591 others await deportation. During the present year, Congress has further restricted immigration so that at the present time only 3 per cent of the foreign born of any country now represented in the United States can enter in any one year—in other words, if there were 100,000 Spaniards in the United States on January 1, 1921, only 3,000 additional could enter during the following 12 months.

Of the 430,000 immigrants entering the United States in 1920, 106,630 remained in New York, or approximately 25 per cent of the total number.

Past Assistant Surgeon H. Valentine Wildman, Jr., United States Public Health Service, stationed at Ellis Island, N. Y., in a recent article entitled "Mental Examinations of Aliens and their Bearing on the Potential Military Strength of the Nation," among other things states: "Movements of population from one country to another are mainly due to economic causes. They take place usually from the more densely to the less densely populated countries, from those of lower to those of higher standards of life, and from those of lesser to those of greater economic opportunities. It is all the more important therefore that the arriving alien should be physically and mentally fit to compete with others in his new environment and thereby develop a spirit of willingness to render public service in time of need. Public sentiment in the United States appears to favor selection rather than restriction of immigration.

The experience during the war, however, plainly indicates that in the interest of national safety it must be assimilated both in character and numbers. Although physical disability may give rise to dependency, it is only a temporary burden, but insanity and mental defect cause perpetual and increasing burdens to society. Eventually the methods of detecting mental defect should be made so rapid of application that they would be used in all, and in reality be, the measure for admission rather than any literacy requirement." This latter statement is directly in line with our own views, excepting that we believe that the best methods now in vogue, with modifications to apply to the definite problem in hand, should be introduced *at once* as an adjunct to the present methods of examination and as time goes on undoubt-



edly simple standards of rapid application will gradually be evolved.

For the past 100 years, prior to the world war, 90 per cent of immigration to the United States came from Europe. In 1920, however, only 57 per cent came from that source, the majority of the others coming from Canada and Mexico.

Approximately \$3,000,000 was expended by the Bureau of Immigration for the year 1919-1920 and \$6,000,000 was requested for the fiscal year 1920-1921. The officials in charge have repeatedly represented to Congress the totally insufficient appropriation and the inadequacy of the force to properly carry on this tremendously important work for the economic safe guarding of our Nation.

There is now a personnel of approximately 1,700 and there should be at least 2,500. Inspectors begin with a salary of \$1,380, and can, after years, reach a maximum of \$2,500 a year.

A training school for officers is necessary and would result in greater efficiency and would be of economic value. A proper system of registration of all aliens and a follow-up system at certain intervals for a given period of years after entry would also be of the greatest economic value. At present the Bureau of Immigration is under the Secretary of Labor whereas medical officers of the United States Public Health Service, under the Secretary of the Treasury are intrusted, under the present law, with the physical and mental examination of arriving aliens and seamen. It would seem at first sight to one not versed in all the details and intricacies of this very important work that either one or the other of these Departments or some entirely separate Department should have entire charge and be responsible for the most effective carrying out of the examination and disposition of entering aliens, with a sufficient staff and adequate appropriation.

Of the approximately 110,000,000 population of the United States in 1920 it has been estimated that about 14 per cent are foreign born or to be exact, 13,920,692 are alien born, and a much larger per cent are of foreign born parentage—either one or both parents.

Let us now turn for a moment and see what happens in the course of a year to our population from an economic standpoint: 500,000 of our population died within a period of 5 weeks from influenza during the year 1919-1920; 150,000 died of tuberculosis during this year, 7 to 8 million cases of malaria occurred in the United States during this same period with an economic loss of one billion dollars—over 14 per cent of these at least were foreign born.

During the late world war, 33 per cent of all men presenting themselves for examination at draft boards were physically unfit to fight, due to defects—a large proportion of which were preventable. One of our leading psychologists—an authority upon mental tests—from the examination of the figures resulting from the psychological examination of over 750,000 of the men drafted into our army, has estimated that approximately 50 per cent of the entire population of the United States are of only 12 years, or under, mental age—in other words, have the average mentality of the average 12-year-old child or a lesser degree of mentality.

Some 80,000 of these soldiers inducted into our military force and thus examined were not permitted to go overseas—these intelligence tests indicating that they did not have the intellectual ability to be an effective unit for the work required. This rapid elimination went far in raising the value and effectiveness of those who

really did go overseas. Officers and special details for difficult or hazardous service were selected quickly and efficiently by means of these intelligence tests all along the line, and it was almost invariably found that those who performed the best were those who had the highest rating in these intelligence tests.

Seventy-five thousand five hundred and eighty-eight cases of neuro-psychiatry came under observation of the Medical Corps of the United States Army during the world war, or about 2 per cent per thousand of the total military population of the United States, most of whom were eliminated very quickly from active units by means of the intelligence tests and rating.

In addition to their employment in the Army with such valuable results, these intelligence tests have been successfully employed in many other fields of activity with marked economic results—in determining the grade of mentality of the mentally defective, the delinquent, the sexually immoral and perverted the criminal, epileptic, vagrant or dependent, for educational purposes in the determination of the superior, normal or retarded student and for vocational purposes.

In a recent survey, 1920, of delinquency, dependency and feeble mindedness in the state of Oregon for the determination of potential or actual social liabilities conducted by the United States Public Health Service and believed to be the first state-wide cooperative movement in mental and social hygiene by citizens of any State, some 45,000 survey cards were issued and of 3,634 cards returned, 2,502 recorded retardation in school work of one or more years. Over 25 per cent of these showed symptoms of mental defect or dulling, 2,634 of these cases were further analyzed and of the same 234 were recorded as mental defectives, 446 as delinquents and 798 as dependents.

In the winter of 1919-1920 the Utah State Board of Insanity appealed to the Department of Psychology in the University of Utah for aid in conducting a state-wide mental survey of the school children of the entire State, excluding Salt Lake City, which maintains its own department of clinical psychology, for the purpose of determining those of superior abilities for educational and vocational purposes, those doing poor or unsatisfactory work because of mental retardation or physical handicap and finally in order to perfect and standardize a set of group mental tests applicable to the children of Utah, so that the tests could be continued by superintendents and principals of the State after this preliminary survey. A modification of the Army Beta Tests for groups was found best adapted to this purpose. These latter were found to make possible an evaluation of rate of adaptation to a new situation and this is particularly valuable for vocational purposes.

Over 15,000 children were tested and about 5 per cent. found to be in the failing group and it was estimated that 1.11 per cent. of the total school population of Utah were sub-normal. Of the 648 children in the failing group, 44 per cent. were in the first and second grades, 33 per cent. in the third grade, 14 per cent. in the fourth grade and 8 per cent. in the fifth grade—these 5 grades comprising 60 per cent. of the total school population. Undoubtedly some of the 40 per cent. in the higher grades were also subnormal which would increase the percentage of subnormality in the total school population to a slight degree. Many of these children were of foreign born parents, their fathers working in the mines.

Miss Elizabeth J. Farrell, Inspector of Ungraded Classes of the Department of Education of the City of New York, has estimated that there are over 22,200 ungraded children in the public schools of New York City—less than 20 per cent. of whom are now receiving

instruction in ungraded classes at an annual expense of approximately \$500,000.

These children are mentally retarded and cannot keep up with the regular classes for the average child and will never develop beyond the mental age of 10 years.

In an analysis of 4,771 of these school children in ungraded classes, 500 or 10.48 per cent., were foreign born, 88 per cent. American born and 1.52 per cent. unascertained; 3,657 or 70.6 per cent. of these children had foreign born fathers and 3,565, or 74.7 per cent. had foreign born mothers, thus only 19.1 per cent. of these ungraded children had American born fathers and 20.8 per cent. had American born mothers. Most of these foreign born children and parents came from the following countries and in the following numbers:

Nation.	Number of Fathers.	Number of Mothers.	Number of Children.
Italy .....	1,627	1,584	242
Russia .....	859	836	143
Germany .....	264	214	8
Austria .....	241	244	26
Ireland .....	221	260	2
Hungary .....	78	96	9
Poland .....	69	71	12
England .....	47	38	13
Roumania .....	34	26	4
Bohemia .....	30	29	0
Sweden .....	25	23	0
Sicily .....	23	23	5
France .....	22	12	3
Scotland .....	20	17	1
Spain .....	18	14	4
Greece .....	12	12	2
Norway .....	11	10	0
Austro-Hungary	5	6	1

All other countries enumerated had less than 5 of either parent born therein in this series. Of 1,188 other retarded school children intensively studied 70 per cent. were found retarded from one to nine years—44 per cent. will be permanently mentally defective. Only those with an intelligence quotient below 80 were considered mentally abnormal and 2 per cent. of the entire school population is estimated to be mentally defective—mostly morons.

These statistics show the very large percentage of retarded school children in our New York Public Schools who are foreign born or of foreign born parentage, and when we think of the vast sums spent for educational purposes—nearly \$44,000,000 in New York City alone, during 1920-1921 it is a matter of serious economic significance. The majority of Italian children are found to be retarded to some degree and their mental level is found to be two or three years below the average native white.

It is found that approximately 40 per cent. of school children fail to progress through the various grades at the expected rate and over \$40,000,000 of the \$400,000,000 annually expended in the United States for school instruction is devoted to reteaching children what they have already been taught, but have failed to learn, and this is almost a total loss. The employment of intelligence test primarily would have determined the degree of deficiency, and with the application of even a part of this \$40,000,000 for ungraded classes, this economic loss could be entirely avoided and suitable instruction given.

The value and economic importance of the employment of intelligence tests has been recognized at Columbia and other universities. At the 1921 fall examinations of the freshman or entering class at Columbia College all applicants were offered an intelligence examination requiring a total of approximately 3 hours of time and which should be passed satisfactorily by any applicant of normal intelligence who has had a high school training.

In many institutions in case of subsequent poor work further intelligence tests are employed and the student directed to take work for which his intellectual ability best fits him, or if unable to select such is eliminated altogether and thus wastes no further time or money in pursuing a course for which he is mentally unsuited. Such intelligence tests are of the greatest value in solving this problem for the student, his family and the educational institution. This brings out the main difference between the usual school examination and an intelligence test—in the former the candidate uses his resourcefulness (and often largely his memory) in solving problems relating to a specific course of instruction, whereas in the latter if properly conducted, he demonstrates his resourcefulness in solving problems which do not relate to any specific school work—he cannot "cram" for this latter examination.

Prior to the development of the intelligence tests the low grade moron was about as high a type of defective as most physicians or even psychologists were able to identify as feeble-minded. By the careful employment of suitable intelligence tests in the hands of experienced psychologists, however, tens of thousands of these high-grade defectives can be brought under the surveillance and protection of society, resulting in curtailing the reproduction of feeble-mindedness and the elimination of an enormous amount of crime, pauperism and industrial inefficiency.

Lombroso searched for physical stigmata in criminals—the intelligence tests bring out in a definite manner their mental defects—the real cause of their asocial conduct—and at least 25 per cent. of criminals are mentally defective and physical anomalies are simply accompaniments of feeble-mindedness and their only diagnostic significance is that of indicating mental deficiency. Mental weakness and moral abnormality or asocial conduct are closely associated. The value of intelligence tests in determining the disposition of cases in our courts is rapidly being recognized and the discriminating judge in the case of crime, delinquency and all forms of asocial conduct will refer the case to physicians and psychologists of experience before determining the ultimate disposition of these cases.

A striking instance of the value of intelligence tests is shown by the record of 100 girls committed to the Ohio State Reformatory as with "intellect sound." Intelligence tests given by a competent psychologist revealed the fact that 36 per cent. of these girls were unquestionably feeble minded and should of course have different care than that of girls of normal intelligence.

Dr. H. H. Goddard, Director of the Bureau of Juvenile Research of Ohio, supervised the giving of the Binet tests in 100 juvenile court cases chosen at random in Newark, New Jersey and nearly 50 per cent. were classified as feeble-minded.

Of 56 delinquent girls from 14 to 20 years of age almost 50 per cent. belonged to the 9 or 10 year level; of 100 prisoners in the Massachusetts State Reformatory 25 per cent. were feeble-minded. Of 1,186 girls tested at the State Industrial School at Lancaster, Pa., 28 per cent. were of subnormal intelligence.

Dr. Katherine B. Davis, former Commissioner of Charities and Correction of New York City, reported on 1,000 cases entered at the Bedford Home for Women in Westchester County, New York and stated that at least 157 were feeble-minded. Of 564 prostitutes investigated in connection with the Municipal Court of Chicago, only 3 per cent. had gone beyond the fifth grade in school and it is reasonably certain that 50 per cent. or more were feeble-minded.

(Continued on page 94)



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## A Literary Diagnosis by Exclusion.

The firm of Harcourt, Brace and Company has just published what upon cursory examination seems to be a solid and significant contribution to American letters, namely, *Civilization in the United States: an Inquiry by Thirty Americans*. It purports to be a critical examination of the whole gamut of American life and thought, and the authors claim to have been actuated merely by a desire "to do their share in making a real civilization possible."

Medicine, of course, is included in the symposium, but whereas the names of the writers are appended to each one of the other twenty-nine articles, the author of the essay on medicine is set down as Anonymous. There is a "Who's Who" of the contributors in which it is stated that the author of the essay on "Medicine" is an American physician who has gained distinction in the field of medical research, but who for obvious reasons desires to have his name withheld.

The article professes to be an exposé of medicine and of its practitioners. The status of the medical profession is that of the devotees of a cult. Physicians are not men of science. The notion that medicine is a science in the modern sense is a fallacy. We are commercialized charlatans and "banditti." Finally, the author refers to "an institution that declares its purpose to be the dubious one of medical research," which reference at once aroused our suspicion, for if he were a physician who had gained distinction in the field of medical research, why should he allude to this field as a dubious one? He thinks that many conditions conspire to make the doctor an "intellectual cheat," which at once set us to thinking that perhaps our author himself was just such a character, that is, that he was not a physician at all.

There is a great deal of internal evidence in the article that it was not written by a physician. This evidence is of two kinds. In the first place the essay fairly bristles with "breaks" in the way of misuse of medical terminology, some of which we shall cite. In the second place, the style is exactly that of another contributor to the symposium, namely, Mr. Henry W. Mencken, that brilliant and versatile *littérateur* who has always displayed a strong *penchant* for writing amusing stuff about medical matters. Mr. Mencken may have been a student of medicine at some time in his life, and his knowledge of medical terminology has served him well in such humorous skits as his antiseptic-marriage burlesque, but he would not be equal to the technical demands of a serious attack on medicine.

Before going into detail, we should like to make the point that if we are right about this matter of authorship the good faith of the editor, publishers and contributors is to be seriously impugned. A work produced under such conditions of intellectual cheating should stand discredited, obviously. How could the sincerity of any of the parties concerned escape such a test unscathed?

Then there is another aspect of the matter. If the article is nothing but a slanderous fake it behooves the medical profession, in fairness to itself, to at least establish the point of authorship. The American Medical Association should take steps at once to compel the publishers to prove that the article was not written by Mr. Mencken.

The style of the essay is unquestionably Menckenesque. There is all the well-known word-craft of that master of the English language. A comparison of the article on medicine with that on "Politics" in the same volume, confessedly written by Mencken, is quite satisfying. Anyone familiar with Mencken's inimitable work in general would without hesitation assign him as the author of the essay in question. His unique manner would give him away however hard he might try to conceal his identity. There is no American writer who is so peculiarly himself as Mencken; would-be imitators are hopelessly betrayed, and the author of "Medicine" is no imitator—the wonderful earmarks, the mordant humor, the incredible vigor, all are there. There is no physician living, let alone anyone else, who could possibly write like Mencken, and why should a physician compose a paper merely masquerading as a Mencken product? What probability is there that in the ranks of the medical profession there is a miracle man whose powers of literary imitation amount to positive genius?

Now as to the aforesaid details proving the lack of adequate technical equipment for the writing of such an article, however brilliant the literary performance, let us see.

Mania à potu he speaks of as synonymous with Korsakoff's syndrome, and also misspells the proper name "Korsakow"; he says that there are specialists devoting themselves exclusively to "the radical cure of phimosis"; he remarks that the great majority of the malaises that plague us are not amenable to cure (note the curious use of the word malaises); the declaration is made that it is practically unknown in America for a clinician to employ proper controls in testing a serum, say in the treatment of pneumonia, and a serum so used is called a nostrum; he insists that the results of Pearl should be placed alongside those of Stockard, with respect to the question as to the effect of alcoholism upon the progeny of various animals, although one of the reasons why they are not is unwittingly made obvious to any scientist in the course of the criticism itself; he cites with glee the report of the National Re-

search Council purporting to show the low relative intelligence of physicians, being seemingly unacquainted with the fallacies that have been shown to enter into the Council's ratings. These instances (there are others) are enough to show that the article was not written by an educated physician. Any doubt as to whether or not the writer is himself a research worker will be dispelled by a scrutiny of the following passage: "he is referred to the diagnostician, who makes a careful record of his *status præsens*, then orders his satellites to perform the Wassermann reaction, make the luetin test, do differential blood counts, perform the determination of his blood urea, and carry out a thorough chemical study of his basal metabolism." Who but a layman would express these technical things in such a manner? And what scientist would, were he writing for the lay public, descend to such strange language?

We challenge Harcourt, Brace and Company to explain this betrayal of the reading public; this insult to the intelligence of all their patrons; this unsportsmanlike traducement of an honorable profession.

#### Abnormal Psychology and Genius.

Until Walt Whitman gave up, or was dismissed from, the editorship of the *Brooklyn Eagle*, he had conformed at all points to the demands of convention. One of his biographers, Cleveland Rodgers, has shown that the charge that he was a barbarian is unfair, because of this record of respectability. He was even what might be called a religious man.

How can we account for his sudden transition from utter mediocrity to transcendent genius? He wrote nothing while editor of the *Eagle* of high distinction. Even the verses that he wrote were commonplace and sentimental. Certainly they could not be classed as poetry. But with liberation came *Leaves of Grass*, and all the foundations of his greatness.

Social and material success in Brooklyn, then, as now, apparently doomed one to spiritual and intellectual mediocrity, if not to sterility. Whitman unwittingly won emancipation and deathless fame because, on principle, he stood unflinchingly against slavery in newly acquired territory, as laid down in the Wilmot Proviso; and for this he was either dismissed or had to resign from his post. The *Eagle* had espoused the cause against slavery in the new territory, but a sudden political shift had called for a change in editorial policy, as a matter of expediency; its editor could not play the part of chameleon, and chose the open road and vagabondage, if indeed he was not thrust into the "discard."

Evidently there was a winning of freedom; inhibitory shackles fell from his mind; the creative imagination was liberated. One biographer says he was disillusioned. Our own view is that just the opposite happened. He parted company with the world of reality and entered the unreal country of dreams; this was illusionment, if it was anything. He had never before been an actual denizen of this psychically created environment. He had begun life as a printer's devil, he taught school, he conducted a paper in Huntington, and he edited the *Brooklyn Eagle*, all of which means that he lived in the world of reality as a mediocre citizen. He had even been a successful spellbinder for Tammany Hall, of which he was a member, and for fifteen years was a very practical politician and man of affairs. We should say that he was a man without illusions until fate took him by the scruff of the neck and separated him from the world of reality and respectability.

The case of Whitman throws considerable light upon the mechanism of genius. It seems to be essentially a

matter of the release of the inhibitions that make partial or complete yokels of most human beings. Fate effects the release in various ways. Even a peasant like Burns can be fashioned by the kind (cruel?) gods, alcohol or tuberculosis assisting a bit at times in shifting the gears of personality. Then the destiny of crucifixion and glory can not be evaded; Golgotha and Olympus become the goals; once hung upon the cross it becomes futile to cry, "Father, remove this cup from me."

#### The Treatment of Ordinary Diseases.

Dr. Beverley Robinson has produced an interesting little book out of the wealth of his long and vast experience, and out of the depth of his wisdom. He calls it "The Treatment of Ordinary Diseases: Notes From the Record Book of an Old Practitioner."

Dr. Robinson gained his medical degree at Paris in 1872; in other words, he has been practising medicine for fifty years. He is to-day as actively interested in medical science and art as ever he was.

This book of Dr. Robinson seems very significant to us. It is a compendium of general practice. Upon it could well be based a great treatise or textbook, the topics dealt with by Dr. Robinson in masterful brevity to be expanded more or less exhaustively, where such treatment would seem advisable, and additional subjects dealt with, such as the art of keeping people well, the detection of infective foci and remediable defects, etc.

The general practitioner does not need to be an expert in all sorts of recondite methods, and he does not have to keep informed about the very last stunt in diagnosis or treatment (usually discarded or supplanted in a few months, if indeed adopted at all), but he does need a *comprehensive* work, never as yet written, going far beyond the confines of a mere "Practice of Medicine," yet not necessarily bulkier.

It is known to the literary cognoscenti that H. G. Wells' monumental work "The Outline of History," now published in one volume about the size of Osler's Practice, is nothing but an expansion of F. S. Martin's remarkable little book, "The Living Past, a Sketch of Western Progress" (Oxford University Press, 1920, fourth edition). We can see very clearly how some medical Wells could produce an extraordinarily useful and epoch-making treatise in like fashion. We suspect that it would make all other textbooks of medicine look like crude performances. Such a Bible for the general practitioner would also put his detractors somewhat on the defensive. Part of the trouble with the general practitioner is that he has no distinctive literature that is his very own, and no branch of the profession can expect serious recognition unless it possesses its own peculiar literature.

The profession ought to accord Dr. Robinson some sort of formal felicitation to signalize not alone the completion of fifty years of medical service to afflicted humanity, but the publication of this most suggestive little book. This editorial is our own contribution toward reminding Dr. Robinson's hosts of friends and old pupils of their duty.

#### A Paradox.

The term "closed hospital" has been coined to describe the undemocratic institution which excludes all but a chosen few from within the sacred circle constituted by the staff. It rather happily hits off this type of institution, and is, of course, obviously borrowed from the nomenclature of labor.

\*Published by American Medicine Publishing Co., New York City.



But the point which we wish to make is this: we are as certain as we well can be that there is not a member of any of these sacred circles who would endorse the closed shop in the world of industry.

We don't believe in an oligarchy of labor ourselves, but as between the closed hospital and the closed shop we think that the former outclasses the latter on the score of oligarchy by a considerable margin.

Can anyone think of a reason why the closed hospital should not be abolished? Is there any argument against the closed shop that would not lie against the closed hospital?

What could these privileged brethren of ours, who do not believe in the closed shop, say in defense of their "dog-in-the-manger" attitude? Nothing that we can think of, which doubtless explains their impressive silence on the subject. They just sit tight. And they know that for the present at least they need no lightning rods.

What pikers, after all, are they who man the closed shop. Pikers and mere children!

### Looking Ahead.

A far larger number of people than ever before are everywhere in the world living in hand-to-mouth fashion, with no idea as to what their own future is to be, or their children's.

This class in the past has furnished the grist for the public hospital, the poor house, and all the other social agencies which have stood more or less ready to aid such folks when temporarily disabled or permanently in the discard.

Economic conditions being what they are, with the possibility of their indefinite continuance, it is to be expected that the class under consideration will wax mightily in numbers, with the practical result of greater demands upon the agencies aforesaid and upon the taxpayers.

Some will doubtless take the view that we are driving with might and main toward socialism, in the sense that only under such a system could the vast social problems which threaten us be manageable.

Young people to-day are altogether unamenable to suggestion or discipline in the way of thrift, or in fact any other of the homely and old-fashioned virtues. Our old-order ideas mean nothing to them. What will they be fit for at sixty except old-age pensions under a socialistic dispensation? As for our young radicals, so called, do they not tend to embrace socialism? If they could be weaned from their worship of the State, which socialism stands for in aggravated fashion, there might be some hope.

Economically, socially, intellectually and politically, the rising generations face a dismal future, save for the high promise of selective birth-control under medical auspices.

## Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

From Margaret Sanger.

Dr. Arthur C. Jacobson,  
New York City.

Dear Sir:—Kindly allow me space to reply briefly to your comment in the January issue of the MEDICAL TIMES on "Birth Control Fakery."

You apparently endorse Dean Inge's statement that "voluntary limitation is being intensively practised on a wholesale scale, that human evolution has been steadily

in the direction of diminishing fertility and increasing parental care, and that to attempt to arrest such a movement by legislation or exhortation or force is absurd," and you go on to stigmatize the advocates of Birth Control as persons having an itch for notoriety, hysteria and profits of some sort and as a "bunch of boob-bumpers."

It hardly seems to me that this language is in keeping with the dignity of a medical journal conducted on scientific lines. The assumption underlying your comment and your abuse of us, who are conducting birth control propaganda, is that by some mysterious law the human race will increasingly come under a process of birth control, which will bring about without human effort the results for which we are working: viz., a check on the multiplication of the unfit, and elimination of the terrific waste of human life through the birth of children into families where, on account of poverty or of the lack of vitality on the part of the mother, they have no chance even if they survive infancy, of growing up into healthy members of society. What is the basis of this assumption? It is true that voluntary limitation of families is being increasingly practised, but by whom? It is being practised by people of American stock, people of education who have access to knowledge withheld from the poor and ignorant; from the hordes of immigrants and the teeming population of our tenements, where what you characterize as the "old rabbit-like breeding" continues in full force.

There is no law of nature that works automatically for birth control for these poor overlaid mothers. In regard to the improvement of the human race, just as in regard to the mastery which man is increasingly asserting over natural forces in the realm of engineering or of electricity or of medicine, we must first learn the laws of nature and then learn to use these laws to our advantage instead of allowing them to rule us to our destruction.

You apparently overlook the fact that at present the law forbids the imparting of instruction concerning birth control to the people most in need of such information; and that the law can only be changed through a change in public opinion brought about by just such strenuous efforts as you decry. If you can point out a short and easy path to the attainment of our objective, it will then be time to find fault with the methods we employ.

Very truly yours,

MARGARET SANGER.

New York, January 26, 1922.

The 18th Amendment in Washington, D. C.

The entrance lobby on the first floor of the State, War and Navy Building was pervaded this afternoon by a strange, pungent and reminiscent fragrance. Whoever entered that building from the outer air knew in a moment that he was comin' through the rye. Guards in the lobby knew nothing of the cause; nobody had dropped anything, and it was merely hinted, in the most discreet manner, that possibly some foreign diplomat with a hipful had passed through. At any rate, it was a potent aroma, a reminder of old, delightful, far-off things, and bottles (correct) long ago.

Walter J. Woof, Honorary President of the Associated Hootchhounds of America, who attended the psychopathic ward, but was not graduated, encountered this fragrance as he came in to attend Secretary Hughes' conference this afternoon. He at once burst into a song beginning:

Seated one day in the drug store,  
I was weary and ill at ease,

And my palate quivered vainly  
At the thought of those old D. T.'s.  
After having been thrown out by the police he resumed:

It may be that only in glory  
Will I sniff that scent again:  
It may be that only the angels  
Will repeat that grand "Say when."

Mr. Woof, in answer to inquiries, said that the lines were from a familiar Christmas carol known as "The Lost Quart."—*New York Times*.

(Continued from page 90)

At the Joliet Prison, Ill., 50 per cent. of the female inmates and 26 per cent. of the male inmates were found to be feeble-minded. Of 150 delinquents in the Whittier School for Boys at Whittier, Cal., 28 per cent. were feeble-minded and 25 per cent. additional were at or near the border line and in the girls' division the percentage closely agreed with that of the boys.

Of 1,000 young adult prisoners psychologically examined at the State Reformatory, Jeffersonville, Ind., approximately 50 per cent. were found to be feeble-minded.

In his study of cases in the New Jersey State Prisons, Dr. E. A. Doll finds that of the white prisoners some 43 per cent. are foreign born and of these Italians make up 44 per cent. of the foreign born criminals.

The negroes make up about 23 per cent. of the total prisoners. He also finds that the average mental age of the foreign born prisoners is actually below that of the mental average of the negro prisoner and the latter is less than that of the native born white. Furthermore there is a tendency in the foreign born to commit the more serious crimes of murder and assault, whereas, the native white prisoners' tendency is more towards crimes against property than against persons, which requires a higher degree of intelligence to plan and execute.

Of 42 delinquents examined at the New York State Agricultural and Industrial School, at Industry, N. Y., only 6 had American fathers and 7 American mothers, the parentage of 6 fathers and 8 mothers was unknown and the balance were foreign born. Of these children of foreign born parents only 6 had an intelligence quotient of 100.

Dr. Robert H. Gault, Professor of Psychology, Northwestern University and Managing Editor of the *Journal of Criminal Law and Criminology*, kindly forwarded to me the Second Annual Report of the Chicago Crime Commission and on page 34 of this Report the following statement appears: "The problem of immigration, although chiefly a national one and under the exclusive control of the Federal authorities, is one effecting all of the larger cities of the country. Some of the results, as shown by analysis of available criminal records by your Committee, would seem to indicate that there is need for more stringent control at Ellis Island, if not for drastic changes in the Immigration Laws. While it is true that many of the best citizens of the United States emigrated from the Old World to this country, and that each year we receive large numbers of men and women who are most excellent material for American citizenship, the fact remains that the United States continues to be a dumping ground for the riff-raff of Europe."

It is estimated that there are over 45,000 mental defectives in New York State alone and there are 33 states, as determined by the draft which exceed New York in the distribution rates of mental defectives. These defectives are simply children who have never grown up intellectually regardless of their chronological age—less than 10 per cent. of them are idiots and only approximately 4,000 are in proper institutions for their care at a cost of about \$3,000,000 annually.

All these cases are potential criminals or prostitutes unless placed in a proper environment. If placed in suitable surroundings, however, most of them are capable of earning a living.

In a recent article entitled "Backward and Defective Children," by the late Dr. Pearce Bailey, Chairman of the New York State Commission for Mental Defectives he states: "According to an estimate made by Dr. Wm. C. Sandy, Psychiatrist to the New York State Commission, 31 per cent. of mental defectives in this State (of N. Y.) are foreign born. Of these Italy furnishes more than any other foreign country. It is true that the excess of foreign born defectives is not much in excess of the foreign born population as a whole (census, 1910), but it should be much less. The immigration laws in regard to the admission of mental defectives are carefully drawn. Why are they not strictly enforced at all ports of entry? Special examinations for the purpose of detecting mental defects should be made at all these ports, although even then all foreign born mental defectives cannot be excluded. Some defective young children will always get by. The Terman Psychological Scale provides for the identification of mental defect at the age of 3 years, but it is difficult to be certain before the age of 4 or 5 years. So we need not expect to prevent the entrance into this country of all foreign born mental defectives, but we can exclude more than we do, and when we do we may expect a decrease in pauperism and crime and in State dependents."

This is significant from the pen of Dr. Bailey who, with the rank of Colonel, was in charge of the Psychiatric Section of the United States Army during the world war. Re-examination at the end of 5 years or less, with provision for deportation in case of feeble-mindedness would provide for the ultimate exclusion of doubtful cases who might be overlooked upon entry.

In addition to the problem of the mental defective as a potential criminal and prostitute in an unfavorable environment is the still more serious problem of their indiscriminate propagation, either by marriage with defectives like themselves, or through illicit relations resulting in the propagation of illegitimate children—thus perpetuating their kind through the inexorable laws of heredity.

A striking illustration of this is the case of Martin Kallikak—a young soldier in the Revolutionary War of English descent—who while visiting at a tavern frequented by militia, met a feeble-minded girl and became the father of her illegitimate feeble-minded son. In 1912 there were 480 known direct descendants of this temporary union and it is known that 36 of these were illegitimate, 33 sexually immoral, 24 confirmed alcoholics, 8 kept houses of ill-fame, 143 were definitely known to be feeble-minded and many others were of questionable mentality. In marked contrast to this record is the following: A few years after returning from the war this same Martin Kallikak married a respectable girl of good family and from this union 496 individuals have been traced in direct descent and in this branch of the family there were no illegitimate children, no immoral women and only one man sexually loose, no criminals, no keepers of houses of ill-fame and only two confirmed alcoholics, not a single feeble-minded individual and most of them were either doctors, lawyers, judges, educators, traders or land-holders.

The Hill Folk—a New England family of English and French origin, and of which 709 persons were traced—of the married women, 24 per cent. gave birth to illegitimate children, 10 per cent. of the women were prostitutes, criminal tendencies were found in 24 mem-



bers, alcoholism was still more common and 48 per cent. were feeble-minded.

During the past 60 years these Hill Folk have cost the State of Massachusetts in charitable relief, care of feeble-minded, epileptic, insane, correction and punishment for crime, prostitution, pauperism, etc., at least \$500,000.

Another notorious family is the Nams derived from a roving Dutchman who settled in western Massachusetts, and of whom 784 have been traced including 187 alcoholics, 232 women and 199 men known to be licentious, 48 inmates of prisons and costing over \$1,500,000.

The exact percentage of feeble-minded has not yet been determined, but it was unquestionably a leading trait.

In New York State the Juke family has lived in the Lake Region of the central part of the State for over 70 years, the original ancestor having come from Holland. Five hundred and forty descendants have been traced, of which 20 per cent. were born out of wedlock, 37 known to be syphilitic, 53 been in the poorhouse, 76 sentenced to prison, and of 229 women of marriageable age 128 were prostitutes. The economic loss to the State of New York by this Juke family in 70 years is estimated to be more than \$1,300,000, to say nothing of the dissemination of disease, crime, vagrancy, sexual immorality and perversion, promiscuous living in squalid quarters, as squatters on property not their own and constantly shifting about.

The family of Sam Sixty, located in the river bottom region of the Ohio River in the State of Ohio was so designated owing to the fact that the majority of its members had an intelligence rating of 60 or less on the basis of the normal of 100. Of 5 generations investigated in 1915 by Mary Stover Kostir, formerly field worker of the Bureau of Juvenile Research of the State of Ohio, 474 descendants were traced from Sam and Jim Sixty who had been committed to the Ohio Penitentiary convicted of the crime of incest upon one of the daughters of the former, and one of these daughters, 14 $\frac{3}{4}$  years old, testing only 8 years mentally, was committed to the Girls' Industrial Home. The father, 47 years old, tested only 8 $\frac{4}{5}$  years mentally, or 60 per cent. Of 261, from which some definite data was obtainable, 60 had court records and 56 had been in public institutions. Of these, 261, 74 were criminalistic, 77 sexually immoral, 55 alcoholic, 23 prostitutes, 4 epileptic, 3 insane, 3 tramps. Of the crimes perpetrated—burglary, larceny, destruction of property, bootlegging, operating houses of ill-fame, riot, perjury, incest, rape, homicide, shooting to kill and attempting to poison are enumerated; 55 are recorded as feeble-minded, only 3 of normal intelligence and 203 mentality undetermined from lack of data. The majority were poor, shiftless, ignorant, alcoholic, sexually perverted individuals, filthy in habits, using vile language, brutal or abusive, wandering about as tramps, vagrants or hoboos, guilty of assault, wilful destruction of property, burglary, stealing, larceny, extortion and committing of felonies. Many were tubercular, syphilitic or insane, unable to support themselves or families, and inmates of the work house, correctional or charitable institutions or social dependents. It is needless to say that this family was the cause of an enormous amount of trouble, great expense, and a large economic loss to that community.

Such a record of unrestrained propagation of criminals, moral delinquents and social dependents, with the tremendous cost of their care and financial loss from their social conduct and economic unproductiveness should cause us to use every possible safeguard against the admission of defectives from other countries into

our midst and if advertantly they should obtain admission, their prompt deportation to the place from whence they came should be carried out.

The trial of those who become criminals cost the State on an average of \$1,000 apiece and some of the chronic recidivists have a record of as high as 20 convictions and many average 3 or more.

There is ample authority under the Mental Deficiency Law of 1919 for the commitment of mentally defective delinquents to custodial care and they should not be placed with the non-criminal mental defective. There were 2,000 vacancies in the penal and correctional institutions of the State of New York in 1920 and with only the additional expense of maintenance the State Legislature could provide that these different institutions should fill their vacancies with such irresponsible criminals and keep them there and prevent their propagation and by vocational means make them largely self supporting. It costs approximately \$500 annually for the care of each mental defective in the several institutions for that purpose in this State, but by a suitable colony plan for properly selected cases and placing of other selected cases in families where the defective would be properly safeguarded this expense would be greatly decreased.

As an index of the very appreciable percentage of these delinquents who are either foreign born or are of foreign born parentage, Miss Flora M. Purcell, investigator in charge of the Department of Public Welfare Mental Clinics, prepared statistics of the 812 defectives examined at Dr. Menas S. Gregory's Psychiatric Service at Bellevue Hospital in 1920, of which 239 were committed to Randall's Island, 110 to Craig Colony for epileptics, 239 to Letchworth Village, 37 to Newark, 141 to Rome and 46 to Syracuse State School—the four latter institutions being under the charge of the New York State Commission for Mental Defectives. Of these 812 defectives, 50 were foreign born, 512 were American born of foreign parents, and only 274 American born of American parents. Thus only 33.7 per cent of these mental defectives were native born of native born parents and 66.3 per cent were either foreign born or had foreign born parents.

Dr. S. D. Porteus, director of research of the Training School at Vineland, N. J., in a recent communication to me has made the following interesting observations—he states: "To my mind one of the most serious consequences of improperly controlled immigration is the admission of large numbers of psychopathic cases. At one time, because of the restricted opportunities of travel, I believe that it was true to say that immigrants tended to be a selected class, comprising the more adventurous and enterprising of the population. That at least was our experience in Australia where the type of immigrant of 50 years back was of undoubtedly much higher level than those who have entered the country during recent years. At present, immigration is such a comparatively easy matter that the restless maladjusted individual has the chance to transfer his undesirable person to another country. In an analysis of cases which we have made in this institution, I estimate about one-third of our psychopathic cases are of foreign extraction." Dr. Porteus suggests that conditions, educational and otherwise, are much more stimulating in America than in the countries from which many of our immigrants come. He states further, "The Italian child whose mental level is 2 or 3 years below the average native white, is forced through our school grades at the same rate as the average native white and often breaks down mentally as a result, and this difference in

intellectual capacity accounts for the very large percentage of Italians found in all classes of defects, delinquencies and dependents. The foreign born Jew, coming from an atmosphere of repression to that of stimulation, also in many instances breaks down mentally under the stress or cannot carry on to the same degree as the average native born American. Of course, the proper place to take action to diminish the inflow of undesirables is at Ellis Island."

We have thus far seen the very large incidence of foreign born among our criminals and delinquents and the appalling statistics of their unrestricted reproduction.

Let us see what our statistics on insanity indicate. In 1910 there were 187,791 inmates in insane hospitals in the United States, of which nearly 30 per cent were foreign born white. In New York State there are over 40,000 insane men, women and children in hospitals, less than 1,000 of which are in private licensed institutions. The balance are a public charge upon the community at an annual cost of approximately \$20,000,000, to say nothing of the economic loss from total unproductivity.

Another point of grave concern is that insanity is on the increase and that more and more annually succumb to the stress and demands of our complex present-day so-called civilization. Only 3.4 per cent of these cases are discharged annually as recovered; 12.4 per cent of all New York State expenditures during 1919 was for the care of the insane alone. Of those patients admitted in 1919, 500 had served our country as soldiers during the world war.

The most important aspect of this subject from our standpoint is the fact that the per capita cost of care and maintenance of each case was \$304.09 in 1919, the average hospital residence is 10 years and unless an alien developing insanity within 5 years after entry is detected he cannot be deported. This provision should be repealed and the law so enacted that an alien must be deported at any time after admission should he become insane.

Of all admissions to our New York State hospitals for the insane during 1919, 48.8 per cent were foreign born, 2 per cent nationality unascertained, and 49.2 per cent native born; 60 per cent of all those admitted had foreign born parents, 11.3 per cent mixed parentage (one native born and one foreign born), only 25 per cent had native born parents, and 3.1 per cent parentage unknown.

From an economic and eugenic standpoint these figures indicate that the majority of our insane are derived from aliens, and that, and this is the most serious aspect of the case, most of the insanity of the United States is propagated through insane alien ancestry. Of all parents who develop insanity and enter insane hospitals, 25 per cent of the men and 6 per cent of the women are cases of general paresis—an entirely preventable form of insanity, as 100 per cent of all cases of paresis are due to syphilis, an infectious disease and the psychosis is a result of the latter disease.

In the case of epilepsy it is estimated that there are over 20,000 epileptics in New York State alone and practically all are more or less inefficient up to complete dependency and many require institutional care. At the Craig Colony for epileptics at Sonyea, New York, supported by and costing the State over half a million dollars annually, there were 1,609 inmates on January 1, 1921—829 males and 780 females. The per capita cost in the care of these epileptics was \$377.92 and approximately 10 per cent of those admitted were for-

eign born and over 50 per cent of the others had foreign born parents.

The New York State Board of Charities, Division of Eugenics and Social Welfare, in 1917 carried on a very exhaustive survey of the extent and cause of dependency in the 167,331 inhabitants of Oneida County, New York, and found that 6 per cent of this total population was mentally defective, over 12 per cent of persons other than those in alms houses or other institutions became partial or complete dependents and as such received outdoor relief in various forms; 1.2 per cent were unable to make continuous and adequate reactions to the environment in which they found themselves. All those whose quantitative intelligence fell below 11 or 12 years normal mental level at maturity were considered cases of mental defect, as also were cases showing that other form of mental defect described as affective deviation and while so large a degree determines conduct of social or anti-social value; 1.2 per cent of those outside of institutions received public relief and 9.9 per cent of those now outside of institutions had at some time been inmates of institutions and 23 per cent had relatives who had been institution dependents somewhere at some time prior to this survey. In 49.9 per cent of all admissions to insane hospitals, a family history of insanity, nervous diseases, neuropathic or psychopathic traits was obtainable. Of 53 young felons investigated in this survey, 36 per cent were foreign born, and of these foreign born, 33 per cent were Italians.

Of 180 criminals in prison, 95 were native born and 85 foreign born, and of the latter 64 were Italians. Of those committed to the New York House of Refuge at Randall's Island 33 1/3 per cent were foreign born.

The eugenic make-up of all these types show that recessive unit characters dominate and control making for every sort of anti-social, asocial, pathological and dependent symptom behavior and these individuals thus become dependents in every possible phase of social failure and inmates of all types of charitable and correctional institutions. Society must thus work for the elimination of the unfit and rehabilitation of those not too dangerously handicapped and at environmental levels at which they can adjust themselves.

Of the dependents and economic failures—all supported wholly at the expense of the country, approximately 50 per cent were foreign born, and this is one of the up-State counties with a foreign population much less than that of New York County or counties adjacent to the latter.

The entire number of poor persons supported and relieved in the entire State of New York during the year 1916-1917 was 636,565, of which 545,605 were men and 90,860 were women, or 6.5 per cent of a total State population of 9,689,744 at that time.

The above investigation resulted in drawing the following conclusions as to the ultimate causes of dependency—in such individuals there are hereditary recessive characters which become dominant in their biological make-up, influenced by prenatal and postnatal environmental stresses—processes producing various types of organ weakness and developmental defects and which burden the individual and through him the community, making for subnormal citizens unable to achieve their ambitions or even carry on their ordinary life work in an adequate and efficient manner—thus environmental and individualistic factors must be considered in questions of economic liability. The more complex the civilization the greater and ever increasing effort must be



exerted on the part of the individual to meet the requirements of the situation in hand and the reaction efforts of the individual as a social unit determines his conduct in the body politic.

The determination to do certain things, which may or may not be of social value, springs from mental trends linked to many associations, conscious or subconscious, and if the latter the individual may be unaware, and thus not fully responsible to that extent.

This brings us to the "ultimate behavioristic quotient" which is a resultant of the many factors acting in time and augmenting, deflecting or coloring the main trends of the personality, all of which, lead back to the primal instinctive strivings found in every human being. The adequacy or inadequacy with which the personality is enabled to respond to the imperative demands of reality depends upon the factors derived from the heredity and environment of that particular individual.

With a well-balanced biological intercorrelation of all organs and functions we have adequate and wholesome physical and mental reactions with behavior useful to society—in other words a fully normal individual—such ability to react adequately under stimulus depends upon organ integrity—of all organs—thus normal or abnormal behavior is indicative of adequate or inadequate organ reactions. This proper and adequate adjustment of the whole human organism grows more and more difficult with the ever increasing complexities of civilization. Failure to receive adequate satisfaction out of life promotes desires and imperfect compensatory reactions in seeking an outlet for these wish trends, with resulting cases of social inadequacy, psychosis and allied mental states on the one hand and mental defect and delinquency and dependency on the other.

Our fundamental instincts receive their primal direction for good or evil from the presence of or lack of determiners in unit characters from the ancestral germ plasm. We must therefore search out the facts of heredity, constitutional make-up and environmental stress, which will determine the characteristics of their reactions to environment in the terms of behavior. The mentally, defective, psychotic, epileptic, delinquent and dependent instead of being thought of as insane, feeble-minded, sick, pauper or criminal, should be thought of as human beings with an inadequate biological mechanism which is unable to exhibit adequate symptom behavior or conduct under the usual conditions of their environment and thereby draw attention to their need for scientific medical and social help and enlightenment. Let intellectual misfits therefore be measured by intelligence tests and placed in that groove of society where they will "fit" the best, determine their capability and develop their potential capacity to the limit of developmental possibilities. Select a vocation best fitted to their capacity as above determined. This may mean institutional supervision, community life with supervision by social workers or independent economic existence.

The lesson to be derived from these conclusions is that we should recognize the tremendous importance of the careful and accurate examination and diagnosis of all prospective immigrants and only admit those who will undoubtedly become economic units of value to the Nation.

A sound mind in a sound body is axiomatic and we have seen from the many statistics thus far presented that a large proportion of aliens who have succeeded in entering our portals do not possess these qualifications in spite of the care thus far observed in their admit-

tance. Can we further safeguard ourselves and if so, by what additional means?

Properly selected and carefully conducted group intelligence tests by competent and experienced alienists and psychologists will certainly further limit the entrance of defectives, who become such a tremendous economic burden to our already overtaxed and complex social order. Furthermore we must demand a higher standard of admission both mentally and physically.

Dr. David Starr Jordan, Chancellor Emeritus of Leland Stanford, Jr., University, has stated that a good citizen is one who adequately cares for himself and his family in the environment into which he has successfully adjusted and furthermore contributes something additional of constructive value to the common weal. Let us make this the standard of admission for every alien, and if after admission, it is found that he cannot live up to this standard, deport him, no matter how many years have elapsed since his admission.

In order to accomplish this result what can we do in addition to the methods now in effect? Firstly, we can insist on an adequate appropriation and a larger personnel than at present for carrying on the work, so that more rigid and careful examination can be carried out; secondly, we can insist that field and research workers go to all the countries from which aliens come to our shores and make first hand and exhaustive researches as to the conditions there existing and the quality of prospective immigrants seeking admission to our shores, thirdly, experienced investigators should be kept at the points of foreign embarkation and others accompany them across the ocean in order to further study and report upon these prospective alien entrants; and finally and of the greatest importance, carefully planned and suitable intelligence tests should be given to every child above 3 years of age and every man and woman of whatever age that succeeds in passing all the other requirements at either the point of embarkation or point of admission to our country, preferably at the former.

Examinations should be repeated after definite intervals should they be indicated, through proper registration.

Would this cost money? Unquestionably a considerable sum, but a mere fraction as compared to the economic saving in money, higher social efficiency, diminished crime, delinquency, physical and mental disease, dependency and, above all, hereditary transmission of mental inferiority.

Intelligence tests so applied could well be considered as an intellectual insurance far more valuable to the community than life, accident, health or fire insurance.

Some may well ask—what is intelligence, of which so many statements have been made up to the present time in this paper and how can we measure it with any degree of accuracy? This is a most pertinent question and should be answered.

Meumann defines intelligence, from the psychological viewpoint, as the power of independent and creative elaboration of new products out of material supplied by memory and the senses, and from a practical point of view involving ability to avoid errors, to surmount difficulties and to adjust to environment.

Stern defines intelligence as general capacity of an individual consciously to adjust his thinking to new requirements—it is general adaptability to new problems and conditions of life.

Ebbinghaus states: "Intellectual ability consists in elaboration of a whole into its worth and meaning by means of many-sided combination, correction and com-

pletion of numerous kindred associations—it is a combination activity."

To simplify the definition and reduce it to its lowest terms we might define intelligence as the mental capacity to adjust satisfactorily to the ever-changing environment of the individual at his level—which means to either a greater average or lesser degree than that of the group to which each particular individual belongs as a member of the human family—if to a greater degree that individual is of superior intelligence, if to the average degree the individual is of normal intelligence, and if to a lesser degree that individual is of an inferior intelligence up to complete absence of intelligence or mental vacuity.

Many psychologists have spent years in examining thousands of individuals of all nationalities, of every age, and of every imaginable social condition and occupation and from the enormous mass of data thus obtained it has been found that the average individual at any age is capable of responding to certain carefully selected tests. These tests have been arranged in definite groups for each year, beginning at the age of 3 years and extending up to the average and superior adult. By many thousands of trials it has been found, for instance, that a child of 10 years of age can only answer the questions and solve the problems that the average 8-year-old child can readily solve, that child has a mental age of only 8 years, although its chronological age is 10 years, and as the so-called intelligence quotient, or ratio of mental age to chronological age is based on 100, or normal, this particular child measures 8/10 of normal and has an intelligence quotient of only 80 instead of the 100 it should have if it passed the tests for the average 10-year-old child.

For many years, two French psychologists worked on this problem and published a provisional scale in 1905. This was modified and improved upon and republished as the Simon-Binet Intelligence Scale in 1908 and again, as further modified in 1911. In 1916, the Stanford Revision of the Simon-Binet Scale was presented and with some further modifications is at present in general use. It was found, however, during our late world war that other tests, but along the same lines, were better adapted for the rapid examination of larger or smaller groups, especially of illiterates who required special tests, and as a result, the so-called Army Alpha and Beta Tests were developed and employed for this particular purpose, the Beta Tests for the illiterates. In addition to these tests there are various other special tests, especially adapted for particular conditions as the pantomime, maze, puzzle, mechanical and performance tests.

For vocational work, for instance, many firms employing large numbers have found it of the greatest economic value to have a trained and experienced psychologist or staff of psychologists examine every applicant for a position and as a result of these special intelligence tests the applicant is either rejected as unsuitable material, or if accepted, placed in that position of greatest economic value to the firm. Many of these organizations have formed schools for the rapid training of those who qualify under these tests. Dr. C. S. Yoakum, who with Dr. Yerkes, had charge of the United States Army Intelligence Testing during the world war, and who collaborated with the latter in a book entitled "Army Intelligence Tests," has succeeded in building up a series of tests by means of which men can be selected for insurance work almost without an error. R. H. Macy & Co., in New York City, have a well-equipped psychological

testing plant. The Metropolitan Life Insurance Co. employs intelligence tests in the selection of its office force. There are some 58 concerns that are or have used intelligence tests in the selection of their personnel and the number is rapidly increasing.

In some factory and other operations the moron can perform certain parts of the work as well as individuals of higher intelligence and in some of the simpler operations at the factory of the B. F. Goodrich Co., at Akron, Ohio, manufacturers of automobile tires, morons were preferred for certain parts of the work because they were more amenable to discipline and remain better contented with working conditions.

The above facts show again the great economic value of intelligence tests and impress upon us the lesson—do not put a \$10,000 man on a \$1,000 job, or vice versa—in other words, get the level of intelligence of the individual and put him at construction work on that level of environment.

Intelligence tests can thus be considered as intellectual measuring rods for the determination of the mental capacity and aptitudes of the individual examined, just as the tape measure gives the size and probable capacity of the various parts of the body for physical exertion.

This rule should be applied in the employment of intelligence tests in the case of the alien—if he enters as a laborer give him an intelligence test a little higher than that for a similar laborer now in our country, for it must be borne in mind that the entering alien is greatly handicapped by limited knowledge of our language, customs, laws and methods of doing things; and furthermore, he has hereditary trends and environmental acquirements from the country in which he and his ancestors were born, many of which must be modified.

All varieties of tests for all varieties of conditions should be carefully tried out and any necessary modifications made at any time, should occasion demand, to the end of carrying on the work at the most effective and efficient level.

It should be borne in mind that the employment of intelligence tests as suggested would simply be an adjunct to all the other examinations now conducted. These latter should be made more rigid and carried out much more thoroughly than the present personnel and appropriation will permit. That this adjunct would be of the greatest value I think there can be no doubt. Furthermore, it is entirely practical. With sufficient appropriation, adequate accommodations and a suitable staff of highly trained psychiatrists, psychologists and social workers, invaluable economic results could be obtained and this would be economic national insurance of the highest order.

Dr. C. E. Seashore, Chairman, Division of Anthropology and psychology of the National Research Council, Washington, D. C., in a recent communication addressed to me, made the following statement: "As to the employment of intelligence tests in the control of immigration, I beg to say that I consider this a matter of great moment at the present time. If we can only admit a small number of immigrants, why should we not exercise some judgment in selecting for admission. Enough work in that type of service has been done in psychology now to make it a comparatively easy matter for us to design such procedures should the government be willing to use them. I think, as a physician, you will realize that emotional stability, moral fitness, health and social attitude are as important as intelligence."

(Continued on ad. page 20)



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I am entirely in accord with Dr. Seashore's views and believe that our tests should be so developed as to determine these latter attributes as well, and that such can be done.

For the work suggested, a director with the necessary number of assistants, a sufficient number of highly educated and trained psychologists to give suitable group tests and occasional individual tests where indicated, social workers to determine hereditary and environmental conditions and a sufficient clerical staff, a record room, special research bureau—these are some of the agencies by which in time and by rigid application the quality of our alien citizenship could be immensely improved at an economic saving of many billions of dollars to our Government.

In this period of world reconstruction, lessened mental and physical resistance, disorder, discontent, increase in insanity, crime, delinquency and dependency—this period above all is the psychological moment in which our Government should act most vigorously and effectively along these lines.

For such intelligence insurance the cost would be a mere bagatelle as compared to the vast saving in the form of higher and better citizenship and in diminished billions of cost for deficiency and dependency and the increased billions added to our assets in higher and better productivity.

In conclusion, I wish to make grateful acknowledgement to Dr. Phyllis Blanchard, Miss Flora M. Purcell, Miss Elizabeth E. Farrell, Dr. Smith Ely Jelliffe, Dr. Menas S. Gregory, Dr. Stephen P. Jewett, Dr. Irwin J. Sands, Dr. W. C. Billings, Dr. H. Valentine Wildman, Jr., Dr. John S. Richards, Dr. H. M. Johnson, Dr. John

B. Watson, Dr. Wm. Healy, Dr. Eliot Frost, Dr. Walter Hill Scott, Dr. L. L. Thurstone, Dr. S. D. Porteus, Dr. C. E. Seashore, Dr. Harold C. Bingham, Dr. Robert H. Gault, and Dr. J. L. Stenquist—all well-known specialists and research workers along these lines—for valuable suggestions and data employed in the preparation of this paper.

142 West 86th St.

#### Discussion.

Phyllis Blanchard, Ph.D., Resident Psychologist, Bellevue Hospital: When we think of the practical side of putting the intelligence test scheme into effect, there are several things that come to mind. I am concerned not only as to the problem of excluding the feeble minded, but as to the probability of many immigrants being sent back who are not actually feeble minded. There are many cases in which, without the aid of thoroughly trained examiners, mistakes are made. We see that every day at Bellevue. We have cases where, because the examiners have not had sufficient experience or training, individuals have been sent to Randalls Island before being sent back to us for observation, and we find them normal; sometime during the period before commitment, they were in a psychotic or emotional state which rendered them temporarily unable to reason intelligently, and they were arbitrarily pronounced feeble minded and committed. I recall two cases recently sent to us, both of whom Ellis Island was trying to deport on the ground of feeble mindedness. One was a woman who was in the post-syphilitic condition of toxemia. As a rule the intelligence is not impaired in these cases, but the faculties of attention and association are impaired and that gives the impression of feeble mindedness. Another was a girl deaf and dumb, and it is easy to see how this would handicap the examiners in trying to establish the mental status by questions the suspect is unable to understand. At Bellevue we use the performance tests by which the language difficulty is overcome. It is much like puzzles and certain acts test the memory and judgment. This girl did these very well. Although she had only been in this country a year she understood and could read English sufficiently so that it was not necessary to give her instructions in pantomime, which

(Concluded from page 22)

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certainly showed that she was not feeble minded; nevertheless, she was being considered for deportation on this ground.

Another matter for thought is just where we draw the line in barring out an immigrant, what do we require when we demand the qualities that will make for citizenship. Many of the so called radicals are not feeble minded, and high grade morons might fit into our social scheme beautifully for they are faithful workers, will do work that others will not do, and are not so apt to be discontented, engage in strikes, etc., although it must be admitted they are very susceptible to suggestion and would follow where others led. It is my opinion, regarding group tests, that they would be only partially successful in this problem. To be sure, the group tests could be used in the selection of those undoubtedly above par, but for the others individual tests would have to be used to judge their real mental status because of their emotional condition. The I. Q. varies from 10 to 20 points according to the emotional state of the individual examined. Another practical consideration is whether we could educate the public to see the necessity of appropriating a sum sufficient to carry on this work that Dr. Lawrence proposes which would undoubtedly be valuable if we could make them see the practicability of it.

Dr. Smith Ely Jelliffe: The most promising thing, as I think over the various topics brought to our attention, is that there is so much interest in the situation,—that brains are being counted as worth something. You all know how difficult it was for a man with flat feet to get into the army, but a man with a flat brain had no difficulty at all. How are we going to keep the flat brains out? I pause somewhat when I recall what Dr. Lawrence said (I think these figures are his): that in 750,000 aspirants for the United States Army 50 per cent. were below the mental age of 12 years. It does not seem to me that the problem is, in view of this, so much how to keep out the feeble minded as it is what to do with those who are here. If our Secretary of State struck the right note in proposing a naval vacation, I think that vote to bring about a more stringent type of immigrant vacation might be taken so that we could catch up with these twelve year old people, and we could devote our efforts to educate those we have at home and not spend so much time in sifting out new arrivals.

I think that some of Dr. Lawrence's suggestions were rather pertinent. It seems to be the problem of the feeble minded is one of the largest civilization has to meet. Those of you who see me to-day might never guess that I was once a slim sapling, but it was so, and at that time running was such a favorite sport of mine that I was in danger of indulging in it to the extent of running off my own feet. Civilization is running off its own feet. Undoubtedly the machine has outrun the intelligence necessary to direct it. Though we talk of intelligence, we have not enough intelligence to run the machine and it is racing now to collapse. So one bite at the cherry would not be sufficient to eliminate some of the factors.

Certain features interested me in the way of practical issues. Any of you who have crossed the ocean in recent years know with what difficulty one approaches the time of landing and how everything that could have been distributed over the eight or nine days of the voyage has to be done in the last two or three hours. It is the same thing in passing through many immigrants in a few moments on landing here; whereas, carefully distributed work on the other side and in the ports of exit where there are more adequate ways of handling the problem would prevent the necessity for this. It always seems that we are better able to bring up the difficulties and fallacies in discussing a problem than we are to offer constructive arguments.

Mr. J. L. Stenquist: We have a situation here with two aspects; first, is it desirable to take some action in this matter. It seems to me it is. The other phase is, how well can we do this sifting process. Working on this front—and I am somewhat interested in that,—there are a few general statements that can be made. First of all we think at first of the enormous number, and of the magnitude of the thing. The people of whom we are speaking amount to 10 per cent., so that out of every hundred we would have from five to ten people with whom we are seriously concerned. For that reason it seems to me practicable to set up a rapid working machine to sift all these people quickly and easily, and at comparatively small expense, and so differentiate the questionable cases and turn these over to the various professions, and there is no question but in this way we could do much more than we are doing now. Even if a few mistakes were made, the degree of progress would be so great that we could overlook the possibilities of mistakes. I would also urge the point made by Dr. Blanchard of the necessity for the highest talent, the highest training for these examiners. The one outstanding answer to that troublesome point is, of course, the present alternative; what do we do now. We look at them for one minute and determine their mental status and the physician is asked to determine their

physical status in the same number of seconds. Almost anything would be an improvement over that. The figures of Dr. Lawrence present a formidable array of evidence to show the tremendous importance of this type of thing.

Dr. Antonio Stella: I beg permission to take exception to some of the statements made by Dr. Lawrence. I was shocked at some of his utterances regarding Italians. I am not speaking from a biased point of view, but there are some impressions he may have made that ought to be corrected. He practically made the Italian appear at the head of the list of criminals and defectives; he spoke of the Italians as being in the front line in the percentages of the vagrants and dependents. If I remember correctly from a report of the Department of Charities, there are fewer Italians in the poor house than any other nationality. On Wards Island they occupy the twelfth line. Regarding prostitutes, it has been the boast of our Police Commissioner that with an Italian population of 700,000 there are no Italian prostitutes, there is not a woman on the street in this city, except in Mulberry Street, where there are five or six listed as such in the most crowded Italian quarter of the city. When we think of the great temptation the young Italian girl, living in poverty, working in factories for long hours and small pay, is exposed to, this is a remarkable record. In regard to dependency, there never was an Italian found in the bread line that was supplied with food in the old days by Fleischman's bakery. If they are unemployed they take the first steamer home to Italy. They are really birds of passage and when work stops they fly away. They are doubly selected.

When an Italian decides to come to this country it takes moral and physical courage. They are examined at the port of embarkation by an American physician and re-examined at Ellis Island, and they are an extremely healthy lot of people. They are exposed to dangerous occupations so that many contract tuberculosis, but they go home to die. It is the same with syphilis; there is very little venereal disease among Italian immigrants, and this is shown by the fecundity of the Italian women. But they do acquire syphilis in this country. The delinquency of Italian children is the result of their living in the slums in the most congested sections of the city. Also, the public school system, wonderful as it is in many aspects, is responsible for the loss of authority in the parents. They learn things at school of which their parents are ignorant and come to regard them as inferior and altogether flout their efforts to train them as the parents themselves were trained in habits and thoughts of decent living. That is what makes them criminals, and it is the second generation, the children born and brought up in this country, who constitute the criminal element among the Italians. Regarding the intelligence of the Italians, I was surprised to hear that they have been listed below the negroes. Dr. Maxwell always said that the school reports showed the Italian children the most promising of any race. It would be possible for a race with such a history of greatness to so degenerate as to breed children not proficient in the public schools.

We ought really to be most grateful to Dr. Blanchard for her observations on the fact that the emotions bring about a condition in Italians which makes them appear stupid. I have seen some who had been classified as feeble minded who had at the time of examination been undergoing great emotional crises. My attention was recently directed to the case of a woman who had raised a family of seven children and brought them to this strange country; she refused food when one of her children has been separated from her and sent to a hospital for traucoma. This woman was suspected of mental instability and was questioned, the questions containing the form the suspicion took. She was asked, "Are you afraid to eat because you believe the food is poisoned?" She replied, "Madonna mia, I cannot eat," and repeated "Madonna mia!" a number of times. Then they asked her did she hear voices, did she believe she was talking with God, and her reply, in my opinion, expressed more sense than they exhibited; she answered that she regarded herself unworthy to talk with God.

I believe the United States has the right to keep away all immigrants, but when it comes to applying these tests in the most unschematic way without consideration for temporary psychotic states, I feel that great injustice is often done. I believe these examinations should be conducted at the port of embarkation in a systematic way and all this misery and tragedy could then be avoided. Over there, divided among many ports, they would have months, if necessary, for observation, and in that way the problem here would be eliminated. I think Dr. Lawrence would give an impression more consistent with the real facts, and one much more fair to the Italian race if the percentages were given with the population to give the ratio with which the percentage is arrived at.

Dr. G. Alfred Lawrence: Intelligence, of course, renders one able to make good use of education in successfully adjusting to the environment. In answer to Dr. Stella, I hasten to state that

(Concluded on page 24)



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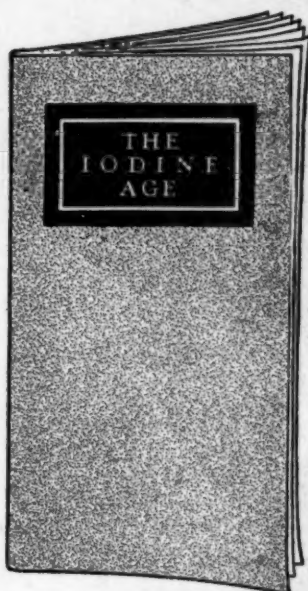
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(Concluded from page 22)

I had no wish to make any invidious comparisons between the people of different nationalities; the statistics I gave have been very carefully compiled and they are presented, not as representing my personal opinions, but as evidence of facts carefully gathered together by trained investigators. We want Italians in this country, bright and intelligent men, women and children, the best that Italy can send us; but we do not want those who make up the no inconsiderable percentage of criminals, and there are many of them in this country at this time. This is no reflection on the Italian people; it is merely a statement of facts as they exist in this country at present.

In regard to Dr. Blanchard's suggestion, illustrated by the cases of the two women, one in a post syphilitic condition and the other deaf and dumb, I do not think any injustice would have been done had they been excluded. It would be difficult to make some of these tests. Look at those three or four families I quoted; the Jukes cost New York one million dollars in thirty years, and another alien half a million. We have enough morons in this country already to do all the work they are capable of doing, and we do not need any more. We should exclude any element that cannot be of economic and productive value in this country. Probably 50 per cent. of the citizens of the United States are of the mental status of 12 years or under, so we have enough subnormality in the country. We are now admitting only 3 per cent. of any nation according to the percentage of the population here of that country; why not have this 3 per cent. of the best instead of the worst? We can do that by these intelligent tests. We can use general group tests and use such tests as a sieve to detect the markedly defective, and by intensive study of these, few cases of injustice will occur. Many insane and many markedly defective get in at the present time. Some cases certified for deportation have been examined and re-examined, resulting each time in the statement being made that they were defective, and yet orders have come from Washington that they be retained in this country. This, of course, is due to political pull, and cases of that kind should be proven, and this can only be done by arousing public sentiment. As far as immigrant defectives are concerned we should adopt the slogan, "They shall not pass."

### Relation of Pulmonary and Ano-Rectal Tuberculosis to Fistula-in-Ano.

Samuel G. Gant at the meeting of the American Proctologic Society said that fistula-in-ano is seldom associated with pulmonary tuberculosis, and that of five thousand fistulae, operated on by him, less than 10 per cent were tubercular. The tubercular sinuses are usually curable by operation unless the patients are remarkably devitalized, and lung involvement and skin affections do not result from a cure as some believe. Fistulae, simple or tubercular, heal much slower when complicated by pulmonary tuberculosis and when cauterized, than when treated by mild stimulants like methylene blue 10 per cent. Tubercular sinuses associated with extensive involvement of mucosa and peri-anal skin may not heal as they are usually secondary to serious lung involvement.

Tubercular fistulae are diagnosed by their large irregular openings and sinuses, undermined skin, abundant rice water-like discharge, and by finding tubercle bacilli in pus or tissue taken from the infected area.

Palliative treatment, hygienic measures, forced feeding, etc., help to build up the patient for operation and prolong life, but do not cure tubercular sinuses or ordinary fistulae when the patient has pulmonary tuberculosis. Operation is the procedure of choice when the patient has reasonable vitality. The technique consists of incising tracts and trimming of overhanging edges of mucosa and skin, and then applying the cautery to raw areas to forestall extension of infection by way of the lymphatics.

Etherization stimulates latent and active foci in the lung and is often responsible for death. The writer invariably employs local anesthesia in this class of cases, keeps the patients in the hospital but a short time and thereafter requires them to spend their time in the open air, and observe the usual hygienic measures prescribed for patients afflicted with tubercular foci in the lungs.

The prognosis is fairly good except in cases where the patient is almost exhausted by lesions in the lung and bowel, but healing is slow whether the tubercular lesion is local or involves both the peri-anal region and lung.



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2 Grams of Sodium Iodide

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(Toxemia, Pyelitis, Cystitis)  
16 grains Hexamethylenamine

**ENDOFERARSAN**  
(Anemia)  
Iron and Arsenic

**ENDOGLOBIN**  
(Chlorosis, Pernicious Anemia)  
Haemoglobin

**ENDOCAODIN**  
(Tuberculosis)  
Calcium Iodides, Gualacal

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### The "Drug Booster," a New Criminal

A new kind of criminal is now making work for the police—the "drug booster." In an intensive campaign against the illegal sale and use of narcotics, Commissioner Carleton Simons, M.D., in charge of the narcotic division at Police Headquarters, has come in contact with a type of easy-money man hard to detect in a criminal act and most difficult to convict before a court after he has been captured. Not always is the booster or "drug tout," as he is also called in police circles, a man. Often it is a woman across whose trail the detectives of the narcotic squad travel in their fight against drugs.

The "drug booster" generally is wise enough not to indulge himself in the use of narcotics, and he is generally too wise to carry them on his person, or, in fact, to have them in his possession at all. He is merely the advance agent, the go-between, who brings the consumer and the vendor together.

Not only does he get a commission from the drug merchant, but he obtains a liberal "bonus" from the customer as well. If the customer is an addict the "booster" often extorts money both before and after the delivery of the goods as well as getting his "bit" from the merchant.

Many of these middlemen, who neither use nor handle drugs, have been brought into Police Headquarters, and generally the evidence against them is insufficient, and will not convict them of violating any law now on the statute books. The addict will never testify and seldom "squeals" on the person who makes it possible for him to get the "dope," and the man who has a supply on the possession of which he is arrested is carefully not to expose his selling agent against the time when he has served his sentence and is once more able to do business.

From masses of information gathered laboriously by the detectives of the narcotic division, Commissioner Simon has been able to classify various types of these middlemen, and where and how they work. As soon as the word comes in to Headquarters that a certain individual is frequenting a certain restaurant, the detectives are sent out, and seldom fail to bring in either a drug user or vendor. The "drug booster" himself generally escapes. If he is arrested with the others, the fact that he is not an addict is soon made evident, and the fact that he has no "dope" in his possession causes him to be discharged when he comes before the Magistrate. If the evidence warrants holding him for further examination or trial, he always has means sufficient to get himself freed on bail, and while his case is pending he is doing business again.

The narcotic division finds the "drug booster" in all sorts of places, but recently he or she has been frequenting the white light district. In Broadway restaurants and dance places, from "ham-and" joints to the most expensive lobster palaces, this agent is doing a profitable business. Often he is found at a table, and sometimes through introductions, sometimes through girls who are working for him, suggests to his intended customer a midnight party somewhere, promising something unusual or "bohemian" in this party. A promise of some bootleg whiskey is often the bait; a place where sure tips on the races can be obtained is another glittering attraction offered. Sometimes when the booster feels it is safe he promises his new-found friend a real "dope" party, at which they will be merely witnesses, not touching the drug themselves at all.

Then from the restaurant the party, with two or three prospective and unwitting customers, goes to a room somewhere in the vicinity. If the party is supposed to be "bohemian" the room may be on the lower east side, and the new crowd is introduced to those who have the stuff. They are treated to an exhibition of "hop" smoking, and watch the effect.

Then the time is ripe to get them. They are asked to "try it once just to see what it is like," and often they do. Perhaps the effects are not as wonderful as they are anticipated to be, but generally on another night they allow themselves to be persuaded to try another pipe to see if the second may not go better than the first, and then the curious pleasure seeker is almost surely hooked. Before he knows it drug-taking is a pleasure to him and then a necessity, and another drug addict is made.

The method described is but one of many taken by the "booster" to increase his business. The other day Commissioner Simon's men arrested three narcotic dealers in an east side theatre near where "drug boosting" had been going on.

The extent to which this traffic has grown in New York, and not only here but all over the world since the war, has led to the developing of a sort of international secret service against the drug evil. Dr. Simon receives daily reports from London,

(Continued on page 28)





DR. JUNIOR: "Now, Doctor—look at this dressing, just removed from my patient's neck—or, rather, from his carbuncle."

DR. SENIOR: "Well what is the matter with it?"

DR. JUNIOR: "Why, nothing—only that every Antiphlogistine dressing, removed some hours after its application, shows a moist center, while the periphery of the application which covered the normal surrounding tissues—is always dry. Now, I presume that is sweat—"

DR. SENIOR: "Oh, no, Doctor. If that were the case, the entire under surface of the poultice would be wet, since the heat of the poultice is uniform, you know."

DR. JUNIOR: "Well, then—what is the explanation of the phenomenon?"

DR. SENIOR: "I'm glad you brought that up. That moist center shows where the exudate has been taken from the congested tissues, and is demonstrative proof of the osmotic action of Antiphlogistine, my boy."

DR. JUNIOR: "Well, now— that is something to know—!"

DR. SENIOR: "And furthermore, I have come to consider this 'selective' action of Antiphlogistine, as almost Diagnostic of inflammatory process below the surface where the poultice has been applied."

DR. JUNIOR: "In other words, then, Antiphlogistine, in inflammatory conditions, has a diagnostic as well as remedial value. Odd, isn't it?"

Paris and other European cities telling him where large supplies of opium, heroin, cocaine and hashish are being shipped, and where their information leads them to believe it is going.

Over 300 cities in this country and Canada are sending their reports on the drug evil to Commissioner Simon, and every day police officers and other officials from many cities come to Headquarters to learn from the Commissioner and his staff how the drug problem is being handled in New York City.

More than 2,900 arrests have been made by the narcotic squad within the last year. Of the addicts arrested a number have voluntarily confessed to the use of narcotics in some form, and have been sent away after serving a sentence for violation of the Harrison drug law, entirely cured.

Among the prisoners arrested recently was one who before he became an addict was a "drug booster," and he confessed to having made \$131,000 in six months. The detectives tell the story of another, an Italian emigrant, who cleared \$2,100 in the first two weeks he spent in this country, and then when others of the ring in which he was working were arrested escaped to Italy.

Dr. Simon is now gathering statistics to show the close relation between crime and the use of drugs. It has already been established that 60 per cent. of all drug addicts have criminal records, and many of those apprehended have confessed that the first crime they ever committed was in an effort to obtain funds to buy drugs.

Many of the drugs finding their way into New York come from Germany, the police have discovered.

"I have the facts to prove," Dr. Simon said recently, "that there is a wealthy drug ring in Germany which is competing for sales to drug addicts and world supremacy in this illicit trade with Japanese distributors. Before the Harrison law was passed the opium imported and smuggled into the United States amounted to about 1,000,000 pounds annually. It is hardly possible to compute the amount now, because the smuggled importations are so carefully hidden. Drugs come in from Mexico, Canada and from South America, Europe and the Orient, and yet all the opium needed for legitimate use could be raised in California."—(New York Times.)

#### The Significance of High Blood Pressure.

The doctor who appreciates the significance of high blood pressure is always interested in anything in the way of treatment that promises to bring about efficient and at the same time safe reduction of the hypertension. It is natural to depend very largely upon the use of the nitrites to bring this about, but the opinion is steadily growing that the continued use of nitroglycerin alone is not to be commended.

Brunton, whose experience and reputation entitle him to be considered as an authority, recommends for the treatment of hypertension a combination of the nitrite of soda, the nitrate of potash and bicarbonate of soda. This combination does its work very well, but according to the extensive clinical experimentation carried on by Thursh, of Philadelphia, nitroglycerin and crataegus oxycantha may be added to the above with decided increase in therapeutic results when presented in proper form. The blood pressure is promptly lowered without irritation or shock and the effect of the combination continues for a considerable period of time.

The formula suggested by Dr. Thrush has been placed on the market under the name of Pulvoids Natrium Comp. and has steadily grown in popularity and use among progressive physicians. Pulvoids are easily pulverized tablets. Pulvoids Natrium Comp. are so coated as to resist solution in the intestinal tract, thus avoiding gastric irritation and favoring the more continuous action of the combination, and any physician who has not yet satisfied himself as to the efficiency of this valuable combination in the treatment of high blood pressure can easily convince himself by clinical test that the claims made for it are in every way warranted.

The Drug Products Co., Inc., whose extensive laboratories are located at Long Island City, N. Y., has been engaged for a number of years in putting upon the market preparations of recognized and standardized value which are ethically advertised only. Among such products in addition to the Pulvoids Natrium Comp. are a preparation of Arsphenamine in suppository form furnished under the name of Salvarsols; Vita-Yeast, which contains the vitamins not only of yeast but of rice; and a number of other preparations that should be of interest to the progressive physician.

Literature, price lists and "Drug Products," a house organ devoted to the products of this company, will be sent gratis to any physician on request. Address The Drug Products Co., Inc., 152 Meadow St., Long Island City, New York.

Syphilis is the greatest cause of death, not excepting tuberculosis.—LEE A. STONE, M.D.

THE older members of the Medical Profession have found

## Pluto Water

excellent for the counter-action of those drugs which suppress secretions and in prescribing this valuable water in small doses the action is to flush the intestinal canal and stimulate the liver to remove from the ducts the accumulated secretions.

Many practitioners direct convalescent patients to the spring for rest and complete treatment.

French Lick Springs Hotel Co.  
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**"They break the 'Vicious Circle' in Hemorrhoids"**

Hemorrhoid sufferers are always inclined to become careless and dilatory in their bowel movements, for fear of painful defecation.

And right there starts the "vicious circle": constipation, local irritation, aggravated Hemorrhoids, painful defecation, increased irregularity, and so forth.

Anusol Suppositories remove the dreaded strain and the reassured patient resumes his regular bowel function.

Then the excellent healing and tonic action of Anusol Suppositories can *set in* and do its utmost without *set-back*.

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### Diagnostic and Therapeutic Aspects of Late Sequelae of Gastric Surgery.

Factors contributing to the failure or success of the surgical treatment of patients with chronic benign ulcer of the stomach or of the duodenum are discussed by George B. Eusterman, Rochester, Minn. He says that failures after medical treatment are taken as a matter of fact, but failures after operation are often given undue prominence, a psychologic fact of considerable importance. In view of favorable end-results by almost purely surgical procedures and the act that a secondary operation was necessary in only 228 cases of the 6,402, Eusterman finds it difficult to follow the logic of physicians who argue that gastro-enterostomy is inherently faulty. The average duration of symptoms in ulcer-bearing patients was nine and one-half years, and such complicating factors as pyloric obstruction, recurring hemorrhage and chronic perforation, singly or in combination, were present in 35 per cent. Total and free acidity was reduced in from 40 to 60 per cent. of cases following gastro-enterostomy.

Eusterman's answer to the charge that gastro-enterostomy is an unphysiologic procedure is that at least 15 per cent. of all pyloroplasties eventually prepare a rich soil for a highly successful gastro-enterostomy. Therefore, it is reasonable to believe that time and an enlarged experience will temper the present laudable enthusiasm for pyloroplasty. The prospect for cure following a successful operation has too frequently been forfeited through the gross dietetic indiscretions of the neglected patient. Many functional derangements of organs other than the stomach, often of major importance, that surgery cannot be expected to cure, require the co-operation of the internist for their alleviation. All this emphasizes the necessity of friendly co-operation between the internist and the surgeon. Unquestionably, the best interests of the majority of ulcer-bearing patients are conserved by such combined efforts. The pooling of all therapeutic resources will prevail over the present tendency of surgeons to institute newer or more radical measures in surgical technic for the cure or alleviation of a widely prevalent and increasing disease.—(I. A. M. A.)

# HAY FEVER MEMORANDA

**Early Spring Type.** Patients whose hay fever develops in late March, April, or beginning of May, should be tested with pollens of early flowering trees as: poplar, birch, maple, willow, walnut, oak, which pollinate in the order named.

**Late Spring Type.** Patients whose hay fever develops in the latter part of May, during June or early July, should be tested with the pollens of sweet vernal

grass, June grass, orchard grass, timothy and red top. The one giving the major reaction should be selected for treatment to the group. The unrelated rose pollinates simultaneously and is the primary or secondary cause in an occasional cause—hence, should be included in tests where direct exposure exists. The same is true of dandelion, daisy and in some sections alfalfa.

## ARLCO-POLLEN EXTRACTS

For Cutaneous Tests and Treatment cover early and late spring,  
also summer and autumn

Literature and list of pollens on request

## THE ARLINGTON CHEMICAL COMPANY

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### A New Local Anesthetic.

From time to time new anesthetics to take the place of cocaine have been proposed, and to some extent used, but without utterly supplanting the older and rather dangerous drug. Now, however, the surgeon has a substitute that is a decided improvement. The new local anesthetic is called Butyn (pronounced *Bute-in*, with the accent on the first syllable). It is the discovery of Professors Roger Adams and Oliver Kamm, of the University of Illinois, and Dr. E. H. Volwiler, of the Abbott Laboratories, Chicago.

The anesthetic has been passed by the Council on Pharmacy and Chemistry, of the American Medical Association. In his report, Dr. A. E. Bulson, Jr., for the Committee on Local Anesthesia, Section of Ophthalmology, said that it acts more rapidly than cocaine, and its action is more prolonged. Less is required, and in the quantity necessary it is less toxic than cocaine. It has other advantages which make it highly useful, especially for eye work. A solution can be boiled without impairing its efficiency.

The Abbott Laboratories is supplying Butyn, in tablets (with and without Epinephrin) and 2 per cent. solutions, which may be had without narcotic blanks.

### Staining of Spirochaeta Pallida by the Fontana-Tribondeau Method

Fuentes gives technic of simple, reliable method to demonstrate spirochaeta pallida in the transudate of a chancre. Author does not consider it superior to the dark-field method, but not all laboratories are equipped for dark-field demonstrations.—(*Arch. Derm. and Syph.*, October, 1921.)

### The St. Louis Meeting of the American Medical Association.

The May meeting of the American Medical Association at St. Louis promises well toward being the largest in attendance of any of the Association's sessions. Since the publication of the hotels in the Journal of the Association in December, inquiries and reservations are being made daily. The hotels and the Conventions Bureau are aiding the Committee in a most satisfactory and helpful way to see that the Fellows are comfortably housed and accommodated. The A. M. A. meetings tax all cities entertaining them to the limit of hotel capacity. Whenever possible a good Fellow should double up

so that no one is left without comfortable lodging.

Reservations should be made by communicating direct with the hotels. If satisfactory arrangements cannot be made in this way, write to Dr. Louis H. Behrens, Chairman Committee on Hotels, 3525 Pine Street, St. Louis, Mo.

Hotel With Number of Rooms	Without Bath		With Bath	
	Single	Double	Single	Double
American, 275 .....			\$2.50-\$3.00	\$4.00-\$6.00
Diseases of Children				
American Annex, 225 .....			2.00-3.00	3.00-6.00
Pathology and Physiology, Pharmacology and Therapeutics				
Beers, 114 .....	\$1.50	\$2.50	2.00-2.50	3.00-3.50
Brevort, 50 .....			2.00	3.00
Claridge, 350 .....			2.50-4.00	4.00-10.00
Obstetrics, Gynecology and Abdominal Surgery				
Hamilton, 160 .....			2.00-2.50	3.50-4.00
Jefferson, 400 .....	2.50-\$3.00	4.00	3.00-3.00	6.00-10.00
Surgery, General and Abdominal, Orthopedic Surgery				
Laclede Hotel, 265 .....	1.50-2.00	3.50-\$3.00	2.50-3.00	3.50-4.00
Majestic, 300 .....			2.50-3.00	3.50-4.00
Dermatology and Syphilology, Nervous and Mental Diseases				
Marion Roe, 300 .....			1.50-2.00	3.00-4.00
Marquette, 400 .....	2.00-2.50	3.00-3.50	3.00-3.50	4.00-6.00
Laryngology, Otology and Rhinology				
Maryland, 240 .....	2.00	3.00	2.00-3.50	3.00-5.00
Gastro-Enterology and Proctology Urology				
Planters 400 .....	2.00-2.50	3.00-3.50	2.50-3.00	4.00-5.00
Ophthalmology				
Plaza, 200 .....			2.00-2.50	3.50-5.00
Roselle, 100 .....			1.50-2.50	2.50-3.50
St Francis, 120 .....	1.50-2.00	2.50-3.00	3.00-4.00	4.00-5.00
Statler, 650 .....			3.00-7.00	5.00-9.50
Practice of Medicine				
Stratford, 100 .....	1.50	2.50	2.50	3.50
Terminal, 100 .....	1.50-2.00	3.00	2.00-2.50	5.00
Warwick, 300 .....			3.00-4.00	4.00-6.00
Stomatology, Preventive Medicine and Public Health				
Westgate, 125 .....	2.00	3.50	3.00	3.50



**If you could save 85% of your cases of Acute Nephritis wouldn't you think it worth while?**

I pulled a man out of the grave with Nephritin. He had tubular nephritis in the last stage—general anasarca, distressing dyspnoea, mitral regurgitation, etc. I had had him on other treatment for several months and he was gradually slipping back, until I finally tried Nephritin Tablets. The results were wonderful. All dropsy gone, dyspnoea gone, lies down and sleeps well, and getting stronger every day.

I had a peculiar case of a young woman who fell 15 feet into a manhole. She was uninjured except that the kidneys quit working. Put her on Nephritin and kidney became active almost immediately.

I was astonished at the results obtained from Nephritin Tablets in albuminuria of pregnancy. Albumin boiled almost solid, my patient was having convulsions, and we held out little hope for recovery, but Nephritin alone did the trick after everything else had failed.

Nephritin Tablets certainly do reduce blood pressure and clear up albumin and casts. What more can you ask?

I have better results with Nephritin in kidney disease than with any other drug I have ever used, and I have practiced medicine for 53 years. I could say more, but that's enough.

I was called in to a case of kidney of pregnancy in such "nasty" shape that at first I hesitated to attend her. Didn't think she could possibly pull through. Put her on Nephritin and was surprised at the way the albumin cleared up. Patient now O. K.

Your little "Quarterly" is great, but not half as great as your Nephritin in any kidney affections—nephritis, albuminuria, high blood pressure, etc.

I have in myself and many others, had the best of results from Nephritin in cases of high blood pressure with cardiac palpitation, due to auto-intoxication with consequent flatulence. In the indigestion which accompanies cardiac and renal disease, nothing has served me as well as Nephritin and I prescribe it almost daily.

I have used your Nephritin Tablets in conjunction with routine treatment in two cases of Toxemia of Pregnancy, and secured much better and quicker results than in cases treated by the routine measures alone.

I get most excellent results from Nephritin Tablets in parenchymatous nephritis, and I am satisfied that the use of this preparation is prolonging life in many of my patients, who had not responded to other treatments.

Nephritin has given me excellent results in a case of typhoid, accompanied by sluggish kidney function.

I had a patient who, when she has the slightest illness, suffers from renal suppression. About 6 months ago she had an attack of this kind and was voiding only 4 to 5 oz. a day. After all other diuretics had failed, I put her on Nephritin. In 4 days output increased to 1½ quarts and to 2 quarts within a week. She still takes it as her kidney quits functioning without it. Says she would be in Heaven if it were not for Nephritin.



<p><b>Neuralgic and Congestive Headaches</b> are so often amenable to the sedative and anodyne action of</p> <p><b>PEACOCK'S BROMIDES</b></p> <p>that this dependable combination of the five bromides should always be used before resorting to other pain-relieving measures, particularly the cold tar products and the narcotics.</p> <p>The results are almost invariably entirely satisfactory, but what is of especial importance, they are free from cardiac depression, or the dangers of creating a drug habit.</p>	<p><b>Billiousness—Jaundice Auto-Intoxication</b> call for cholagogue action, and the efficiency of</p> <p><b>CHIONIA</b></p> <p>In this direction makes it one of the most serviceable remedies that can be employed in the treatment of these conditions.</p> <p>Used with careful regulation of the diet, Chionia rapidly restores the activity of the hepatic functions. Effective, however, as Chionia is in stimulating the liver, it has the further advantage of never producing pronounced or undesirable catharsis.</p>
<p><b>Peacock Chemical Co., St. Louis, Mo.</b></p>	

#### New Officers Elected.

At the recent annual meeting of the Medical Association of the Greater City of New York, the following officers were elected: President, Dr. George L. Brodhead; Recording Secretary, Dr. E. E. Smith; Chairman for Borough of Brooklyn, Dr. Robert E. Coughlin; Chairman for Borough of Richmond, Dr. William Bryan.

#### Atophan.

Atophan has been manufactured for quite some time past in the manufacturing plant of Schering & Glatz, Inc., at Bloomfield, N. J.

The product is made by a special process, which entirely eliminates the possibility of unpleasant empyreumatic admixtures, and thus still further improves this standard synthetic in the treatment of Rheumatism, Gout, Neuralgia, Neuritis, Sciatica, Migraine and "Retention" Headaches.

Schering & Glatz, Inc., 150-152 Maiden Lane, New York City, will be glad to send a trial box of Atophan Tablets to any physician requesting it.

#### Schering's Fifty Year Jubilee.

Recently, there have been received in this country a souvenir volume commemorating the founding of the Chemische Fabrik auf Actien (vorm. E. Schering), of Berlin, on October 23, 1871.

This book, besides being a remarkable specimen of the modern printers' and bookbinders' art, recites the wonderful development of this world-wide manufacturing concern from its humble early beginnings, as the still flourishing Berlin Pharmacy "Grüne Apotheke," to its present heights.

It will be remembered that this company is the original creator of such mile-stones in the progress of therapeutics as Chloralhydrate, Formalin, Urotropin, Beta-Eucaine, Medinal Tonols (Glycerophosphates of highest purity), Trikresol, Atophan, and many other universally known products, introduced to the medical profession and the drug trade of the United States by Schering & Glatz, Inc. The leading synthetic specialties have been manufactured by the latter in the United States for several years. The fifty year jubilee of the Schering Works is thus of such interest to physicians, that it should not pass without suitable mention in these pages.

Congratulations and evidences of friendship were received by the Chemische Fabrik auf Actien (vorm. E. Schering) from all parts of the world, and we have no doubt that the best wishes of the medical profession of the United States are with this stalwart pioneer concern.

#### Openings at St. Marks.

The Urological Department of St. Marks Hospital has been reorganized under the sole control of Dr. Victor C. Pedersen, with daily service in two divisions on alternate days. There is a good opportunity for young men to receive instruction as assistants in the clinic. Applications should be made to Dr. Pedersen.

#### Graduate Training in Nervous and Mental Diseases.

A minimum undergraduate and graduate course as a basis for an adequate graduate training sufficient for university endorsement of qualification to practice as a specialist in neuropsychiatry is outlined by Arthur S. Hamilton, Minneapolis. The course covers a period of twenty-two months' work. Neuroanatomy, neurophysiology, neuropathology, psychology, physiologic chemistry, legal medicine and sociology should occupy the full time of the first year academic year (eight months); and the ensuing fourteen months, making a total of two years of eleven months each, should be applied to clinical neurology and psychiatry, including, also, work in neurotology, neurophthalmology, physiologic chemistry, serology and roentgenology, along with a continuation of such laboratory work as naturally arises out of the clinical material observed. The clinical courses should be designed, not to attempt a finished training of the applicant in either branch of neuropsychiatry, but to give basic instruction in both as the range of the two specialties overlaps in practice to such extent that this need must be met. Instruction in this period should be chiefly through bedside work and practical experience, though under proper supervision. At the completion of two years (of eleven months each), the student's work, if satisfactory, should be recognized by the degree of Master of Science in neuropsychiatry, if the work is done under such auspices as makes this possible.—(J. A. M. A.)



# The Management of Infected Wounds

An open wound is always an unknown quantity—until it has healed sufficiently to remove all danger of infection.

Every physician is familiar with the simple cut or laceration, which, harmless at first, suddenly takes a "turn for the worse". Everything will be going well at one dressing, and at the very next, a few hours later, the wound may show a vastly changed appearance. The margins will be red and angry, the tissues dark and congested, and the whole wound bathed in an offensive yellowish-gray discharge. Pain and soreness will be increased, and the patient soon give signs of systemic absorption. Only the doctor knows the gravity of the situation and the struggle before him.

Everything depends on the thoroughness and efficiency of the treatment employed. General supportive measures are necessary, but it is the local care and treatment that mainly determine the outcome.

Cleansing is all-important, but it is never wise to drench the tissues by excessive washing or irrigation. To do so is to rob them of the blood and lymph essential to normal defense and repair—to contribute directly to the progress of the infectious process. Therefore, while it is always desirable to clean the wound well, and remove all pus and detritus, this should never be continued to the point of weakening or injuring the tissues.

**The Application of DIOXOGEN**—A successful line of procedure is to wash out a wound with normal salt solution until all discharge or loose fragments are removed. Then Dioxogen should be injected into the wound, care being taken to reach every part. The resulting effervescence means the liberation of pure, active oxygen, not only the most potent of antiseptics and germicides, but also the most powerful aid to normal tissue processes. After each syringeful of Dioxogen the foamy mass should be washed away and the injection of Dioxogen repeated until the effervescence in the wound shows marked decrease. While it is usually desirable to remove the frothy debris that may be left after the use of Dioxogen, so free is this antiseptic from any toxic or irritating action, that terminal irrigation after the last injection is seldom necessary.

Indeed, it is usually well not to irrigate the last thing, for any Dioxogen left in the wound slowly gives off its oxygen, and thus acts as a stimulant to normal cell functions.

The efficiency of the foregoing treatment is promptly shown by the marked improvement in every respect—the infectious process is checked, the discharge decreases, the inflammation subsides, the tissues take on a clean, healthy appearance, and healing follows naturally without interruption or delay.

The dependable action of Dioxogen in the treatment of infected wounds—its control of germ activity and pronounced stimulation of the normal processes of repair—with complete freedom from any toxic or untoward effect, have made it the most widely used antiseptic today in the treatment of infected wounds.

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### Control of Venereally Diseased Persons in Interstate Commerce

Robinson makes analysis of regulations governing interstate travel and cites court decisions which have been rendered in enforcing these laws. The author concludes that if physicians would call attention to the Federal Interstate Quarantine Regulations, many patients, who hope to evade public health laws of their own State by traveling to a State where laws are less strict, would be persuaded to remain under treatment.—(*Public Health Reports*, September 9, 1921.)

### A New Mercurial.

We have long needed a satisfactory mercurial for hypodermic administration; and of all hypodermic methods, the intravenous is obviously the best. Arsphenamine is thus administered; but arsphenamine without mercury will usually fail to eliminate the spirochete of syphilis.

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### Early Recognition of Urologic Lesions.

What may be considered some of the cardinal points in diagnosis of urologic lesions are stressed by R. F. O'Neil, Boston. He claims that sufficient importance is not attached to the early symptoms of urologic lesions by the profession in general, nor is sufficiently painstaking physical examination carried out in many cases. In no class of disease is there more suffering, distress and embarrassment than that caused by lesions of the genito-urinary tract; and in no class of cases can a more accurate diagnosis be made or greater relief be afforded by operation. It is only by the constant reiteration of these facts that better results can be obtained in early recognition and treatment, and it is our duty to the profession, to the laity and to ourselves to keep these facts constantly alive.—(*J. A. M. A.*)